

Avi Loeb

Galileo Project, UFO's over
Ukraine & Papua New Guinea
Meteor.

THE
GALILEO
PROJECT

DISCLOSURE
TEAM

VINCE ADAMI

1
00:00:09,049 --> 00:00:06,670

[Music]

2
00:00:17,470 --> 00:00:09,059

one realizes very quickly we've been

3
00:00:17,480 --> 00:00:25,820

I had access to to all those programs

4
00:00:31,370 --> 00:00:27,970

[Music]

5
00:00:31,380 --> 00:00:36,230

foreign

6
00:00:46,310 --> 00:00:43,930

[Music]

7
00:00:49,130 --> 00:00:46,320

surfaces no obvious signs of propulsion

8
00:00:50,750 --> 00:00:49,140

and yet this object is witnessed Now by

9
00:00:52,170 --> 00:00:50,760

four separate individuals in two

10
00:01:01,189 --> 00:00:52,180

separate aircraft

11
00:01:04,189 --> 00:01:01,199

[Music]

12
00:01:06,050 --> 00:01:04,199

hey guys welcome back to the first of

13
00:01:08,810 --> 00:01:06,060

two live interviews on this channel

14

00:01:11,090 --> 00:01:08,820

today uh let's not waste any more time

15

00:01:12,469 --> 00:01:11,100

oh I will just say sorry if you do have

16

00:01:14,750 --> 00:01:12,479

any questions pop them in capital

17

00:01:16,550 --> 00:01:14,760

letters in the live chat um it gives me

18

00:01:18,590 --> 00:01:16,560

a better chance of seeing them although

19

00:01:19,969 --> 00:01:18,600

I do have an awful lot of questions that

20

00:01:21,649 --> 00:01:19,979

have been sent over the last few weeks

21

00:01:23,870 --> 00:01:21,659

since I announced that Avi would be back

22

00:01:25,910 --> 00:01:23,880

on the show so I will try my best to get

23

00:01:28,670 --> 00:01:25,920

to them but if not then I apologize

24

00:01:30,230 --> 00:01:28,680

please keep the chat the live chat nice

25

00:01:32,570 --> 00:01:30,240

and uh

26

00:01:34,969 --> 00:01:32,580

friendly let's say but let's jump

27

00:01:36,950 --> 00:01:34,979

straight into it guys so Avi lobe is the

28

00:01:38,510 --> 00:01:36,960

head of the Galileo project founding

29

00:01:40,490 --> 00:01:38,520

director of Harvard University's black

30

00:01:42,350 --> 00:01:40,500

hole initiative director of The

31

00:01:44,270 --> 00:01:42,360

Institute for Theory and computation at

32

00:01:46,550 --> 00:01:44,280

the Harvard Smithsonian Center for

33

00:01:47,810 --> 00:01:46,560

astrophysics and the former chair of the

34

00:01:50,270 --> 00:01:47,820

astronomy department at Harvard

35

00:01:51,830 --> 00:01:50,280

University he chairs The Advisory board

36

00:01:53,569 --> 00:01:51,840

for the Breakthrough star shop project

37

00:01:55,429 --> 00:01:53,579

and is a former member of the

38

00:01:57,889 --> 00:01:55,439

president's Council of advisors on

39

00:01:59,510 --> 00:01:57,899

science and technology and a former

40

00:02:01,550 --> 00:01:59,520

chair of the board on physics and

41

00:02:02,630 --> 00:02:01,560

astronomy of the national academies he

42

00:02:04,550 --> 00:02:02,640

is the best-selling author of

43

00:02:06,469 --> 00:02:04,560

extraterrestrial the first sign of

44

00:02:08,690 --> 00:02:06,479

intelligent life beyond Earth and the

45

00:02:11,330 --> 00:02:08,700

co-author of the textbook life in the

46

00:02:14,210 --> 00:02:11,340

cosmos both published in 2021 please

47

00:02:16,550 --> 00:02:14,220

welcome back Avila Avi good to see you

48

00:02:18,650 --> 00:02:16,560

my friend great to be with you

49

00:02:20,869 --> 00:02:18,660

thank you so much let's jump straight

50

00:02:23,150 --> 00:02:20,879

into it Avi um I know we've only got an

51
00:02:25,490 --> 00:02:23,160
hour so I guess the first thing is um

52
00:02:27,830 --> 00:02:25,500
congratulations we're into year two of

53
00:02:30,650 --> 00:02:27,840
the Galileo project uh that must be

54
00:02:33,550 --> 00:02:30,660
quite exciting well actually I should

55
00:02:36,110 --> 00:02:33,560
emphasize that as of this week we have

56
00:02:37,790 --> 00:02:36,120
entered a new phase in the project where

57
00:02:40,190 --> 00:02:37,800
we are getting data

58
00:02:42,410 --> 00:02:40,200
wow and we're starting to analyze it

59
00:02:44,630 --> 00:02:42,420
it's basically a test of the system and

60
00:02:45,770 --> 00:02:44,640
also the software so it's really

61
00:02:48,470 --> 00:02:45,780
exciting

62
00:02:50,570 --> 00:02:48,480
um because until now we just first of

63
00:02:52,790 --> 00:02:50,580

all purchased the suite of instruments

64

00:02:55,369 --> 00:02:52,800

that we might want to use and it took

65

00:02:57,650 --> 00:02:55,379

some time because of supply chain delays

66

00:02:59,210 --> 00:02:57,660

and so forth and then we had to put them

67

00:03:01,610 --> 00:02:59,220

together those instruments make sure

68

00:03:04,729 --> 00:03:01,620

that they work that took a while and

69

00:03:07,009 --> 00:03:04,739

eventually we now have them uh working

70

00:03:09,890 --> 00:03:07,019

in in concert and we will start getting

71

00:03:13,009 --> 00:03:09,900

data in the coming week and uh analyzing

72

00:03:15,229 --> 00:03:13,019

it so it's really a new phase and we're

73

00:03:17,390 --> 00:03:15,239

getting to business so to speak whereas

74

00:03:21,290 --> 00:03:17,400

before you know we were

75

00:03:23,750 --> 00:03:21,300

uh preparing for business uh so that's a

76

00:03:26,390 --> 00:03:23,760

very different phase uh because as I

77

00:03:29,270 --> 00:03:26,400

said all of you know throughout the

78

00:03:31,309 --> 00:03:29,280

process we are all about getting new

79

00:03:34,850 --> 00:03:31,319

data we want to look at the sky figure

80

00:03:38,330 --> 00:03:34,860

out what's out there rather than rely on

81

00:03:40,670 --> 00:03:38,340

uh past reports that most of which are

82

00:03:43,430 --> 00:03:40,680

either classified or based on eyewitness

83

00:03:46,009 --> 00:03:43,440

testimonies that we cannot validate

84

00:03:48,289 --> 00:03:46,019

because we don't have access to those

85

00:03:50,270 --> 00:03:48,299

experiences directly so the scientific

86

00:03:52,070 --> 00:03:50,280

method is about getting high quality

87

00:03:54,530 --> 00:03:52,080

data with instruments that you fully

88

00:03:57,170 --> 00:03:54,540

understand under control and that's what

89

00:03:59,390 --> 00:03:57,180

we are now starting to do and that's

90

00:04:03,589 --> 00:03:59,400

very exciting uh it's sort of like a kid

91

00:04:06,589 --> 00:04:03,599

you know starting to learn about the

92

00:04:08,690 --> 00:04:06,599

environment by touching it so for me

93

00:04:10,610 --> 00:04:08,700

that's the only way to make progress

94

00:04:13,789 --> 00:04:10,620

because if we wait for the government to

95

00:04:15,890 --> 00:04:13,799

declassify data we can wait forever

96

00:04:17,390 --> 00:04:15,900

yeah absolutely now you had some

97

00:04:20,050 --> 00:04:17,400

equipment located on the roof of the

98

00:04:22,850 --> 00:04:20,060

Harvard Observatory but

99

00:04:25,310 --> 00:04:22,860

let me correct you so that was the

100

00:04:28,189 --> 00:04:25,320

initial place where we put it but by now

101
00:04:30,710 --> 00:04:28,199
it's moved out and the roof had to be uh

102
00:04:33,409 --> 00:04:30,720
resurfaced and also it was not an ideal

103
00:04:34,430 --> 00:04:33,419
location and so we now placed it in a

104
00:04:35,990 --> 00:04:34,440
different location

105
00:04:38,330 --> 00:04:36,000
are you able to let us know where that

106
00:04:41,409 --> 00:04:38,340
loo location is no because I don't want

107
00:04:43,490 --> 00:04:41,419
hackers to sabotage the data collection

108
00:04:44,990 --> 00:04:43,500
you know that's understandable

109
00:04:46,430 --> 00:04:45,000
absolutely

110
00:04:48,710 --> 00:04:46,440
um so you know you're talking about

111
00:04:50,510 --> 00:04:48,720
Gathering the new data once you let's

112
00:04:53,030 --> 00:04:50,520
say you do get something interesting and

113
00:04:54,530 --> 00:04:53,040

you analyze it and you know you get

114

00:04:56,330 --> 00:04:54,540

confirmation of something genuinely

115

00:04:58,430 --> 00:04:56,340

anomalous how would you release that

116

00:05:00,230 --> 00:04:58,440

information and the results you know if

117

00:05:03,530 --> 00:05:00,240

it were to be something like that that

118

00:05:05,150 --> 00:05:03,540

unique right so we have a suite of

119

00:05:07,370 --> 00:05:05,160

instruments at different wavelengths we

120

00:05:11,030 --> 00:05:07,380

have infrared we have Optical radio

121

00:05:13,370 --> 00:05:11,040

audio and then you know obviously we'll

122

00:05:16,010 --> 00:05:13,380

first verify that we see the same object

123

00:05:19,249 --> 00:05:16,020

in all of them and that that and then of

124

00:05:23,090 --> 00:05:19,259

course the question is is it human made

125

00:05:26,870 --> 00:05:23,100

um like a drone uh weather balloon or an

126

00:05:29,810 --> 00:05:26,880

airplane or a satellite or is it um

127

00:05:31,490 --> 00:05:29,820

natural some you know either an insect a

128

00:05:35,749 --> 00:05:31,500

bug or

129

00:05:38,689 --> 00:05:35,759

um some bird or or something like a you

130

00:05:40,430 --> 00:05:38,699

know a lightning or whatever and if the

131

00:05:42,950 --> 00:05:40,440

answer is no then of course it starts

132

00:05:46,670 --> 00:05:42,960

being intriguing and what we plan to do

133

00:05:48,950 --> 00:05:46,680

is uh once we have good enough data

134

00:05:52,430 --> 00:05:48,960

um basically write the scientific paper

135

00:05:54,230 --> 00:05:52,440

and share the data with the entire

136

00:05:56,210 --> 00:05:54,240

community so anyone can look through it

137

00:05:58,189 --> 00:05:56,220

it will because the sky is not

138

00:06:00,650 --> 00:05:58,199

classified and we don't plan to hide

139

00:06:02,629 --> 00:06:00,660

anything and our analysis will be

140

00:06:04,189 --> 00:06:02,639

transparent other people can analyze the

141

00:06:06,770 --> 00:06:04,199

same data because we will make it

142

00:06:08,270 --> 00:06:06,780

available the only step intermediate

143

00:06:10,570 --> 00:06:08,280

step that we will go through is to

144

00:06:14,050 --> 00:06:10,580

verify you know that we are not

145

00:06:17,810 --> 00:06:14,060

misleading we don't want to cry wolf

146

00:06:19,490 --> 00:06:17,820

and so we want to make sure that the

147

00:06:21,650 --> 00:06:19,500

data is reliable that we understand what

148

00:06:24,050 --> 00:06:21,660

we're seeing and then let anyone that

149

00:06:26,510 --> 00:06:24,060

wants to look at it look at it so in

150

00:06:29,629 --> 00:06:26,520

that sense it's I would say a breath of

151

00:06:32,270 --> 00:06:29,639

fresh air into this uh subject that had

152

00:06:33,650 --> 00:06:32,280

a lot of secrecy a lot of Suspicion and

153

00:06:35,270 --> 00:06:33,660

a lot of people talking about their

154

00:06:37,249 --> 00:06:35,280

personal experiences but that's not the

155

00:06:40,790 --> 00:06:37,259

way science is done maybe you know in

156

00:06:43,610 --> 00:06:40,800

religion you can have a revelation and

157

00:06:45,110 --> 00:06:43,620

many people reported about Revelations

158

00:06:47,770 --> 00:06:45,120

they had the with the religious

159

00:06:50,390 --> 00:06:47,780

experience it's also true when people

160

00:06:52,150 --> 00:06:50,400

take some substances you know they have

161

00:06:55,129 --> 00:06:52,160

their own personal experience

162

00:06:57,230 --> 00:06:55,139

and the point is science is not done

163

00:06:58,370 --> 00:06:57,240

this way science is not done based on a

164

00:07:01,370 --> 00:06:58,380

personal experience science is done

165

00:07:03,950 --> 00:07:01,380

based on uh collecting data that can be

166

00:07:06,110 --> 00:07:03,960

reproduced that it can be analyzed by

167

00:07:07,790 --> 00:07:06,120

everyone everyone can share just like

168

00:07:10,790 --> 00:07:07,800

the reality we all share you know when

169

00:07:13,129 --> 00:07:10,800

you drive a car on the street that's a

170

00:07:15,230 --> 00:07:13,139

reality that all the other drivers share

171

00:07:16,969 --> 00:07:15,240

with you and so if you do something

172

00:07:19,430 --> 00:07:16,979

foolish you can bump into another car

173

00:07:21,890 --> 00:07:19,440

and you know so the point is there is a

174

00:07:24,589 --> 00:07:21,900

reality that we all share and that's the

175

00:07:26,570 --> 00:07:24,599

reality that science is dealing with you

176

00:07:28,430 --> 00:07:26,580

can go to the metaverse and be in a

177

00:07:30,230 --> 00:07:28,440

reality that not everyone shares that

178

00:07:32,930 --> 00:07:30,240

you share and you look good there and

179

00:07:35,330 --> 00:07:32,940

you believe that that's fun and also you

180

00:07:38,330 --> 00:07:35,340

can take some substances and live in a

181

00:07:40,490 --> 00:07:38,340

space that nobody else shares with you

182

00:07:42,409 --> 00:07:40,500

but you feel good about it but that's

183

00:07:44,930 --> 00:07:42,419

not science science is about the reality

184

00:07:46,430 --> 00:07:44,940

that we all share meaning that that if

185

00:07:48,830 --> 00:07:46,440

something happens in that reality

186

00:07:51,170 --> 00:07:48,840

everyone can experience it and the only

187

00:07:54,129 --> 00:07:51,180

reason that this subject did not get

188

00:07:56,210 --> 00:07:54,139

sort of the in you know Universal

189

00:07:57,890 --> 00:07:56,220

experience is because the government

190

00:08:00,950 --> 00:07:57,900

collected some data that is classified

191

00:08:03,529 --> 00:08:00,960

and the data is classified because it

192

00:08:05,210 --> 00:08:03,539

was collected by classified sensors the

193

00:08:07,550 --> 00:08:05,220

government doesn't want adversaries to

194

00:08:09,950 --> 00:08:07,560

be aware of the sensors that the US is

195

00:08:13,370 --> 00:08:09,960

using and therefore the data was not

196

00:08:15,409 --> 00:08:13,380

released so we are breaking that mold by

197

00:08:17,570 --> 00:08:15,419

collecting data with instruments that

198

00:08:19,670 --> 00:08:17,580

are not classified that we fully

199

00:08:21,650 --> 00:08:19,680

understand and we will make the data

200

00:08:23,809 --> 00:08:21,660

open and that's all about the reality

201
00:08:26,210 --> 00:08:23,819
that we all share so it's not a matter

202
00:08:28,430 --> 00:08:26,220
of one person saying I witnessed that

203
00:08:30,589 --> 00:08:28,440
like a religious experience it's not a

204
00:08:32,089 --> 00:08:30,599
religious it's about the sky okay if

205
00:08:34,670 --> 00:08:32,099
something is flying in the sky everyone

206
00:08:37,670 --> 00:08:34,680
can see it yeah and this data will

207
00:08:40,010 --> 00:08:37,680
initially be analyzed by Ai and then

208
00:08:41,810 --> 00:08:40,020
possibly if it then needs further

209
00:08:44,690 --> 00:08:41,820
analysis move to kind of humanize is

210
00:08:46,310 --> 00:08:44,700
that how it'll work yeah so first of all

211
00:08:48,530 --> 00:08:46,320
I should say humans are not scientific

212
00:08:50,750 --> 00:08:48,540
detectors and a lot of people have an

213
00:08:52,310 --> 00:08:50,760

issue with that and they say well in the

214

00:08:54,949 --> 00:08:52,320

court of law sometimes eyewitness

215

00:08:56,870 --> 00:08:54,959

testimonies you know are counted and but

216

00:08:58,970 --> 00:08:56,880

that's because you know we don't have

217

00:09:00,650 --> 00:08:58,980

anything else and unfortunately a lot of

218

00:09:02,990 --> 00:09:00,660

people are put in jail for the wrong

219

00:09:05,570 --> 00:09:03,000

reason we know that when DNA testing

220

00:09:08,750 --> 00:09:05,580

comes along they are found innocent in

221

00:09:11,509 --> 00:09:08,760

some cases so science cannot rely on

222

00:09:13,009 --> 00:09:11,519

what people say that is not the way by

223

00:09:15,350 --> 00:09:13,019

which science operates it's based on

224

00:09:17,810 --> 00:09:15,360

quantitative measurements by instruments

225

00:09:19,910 --> 00:09:17,820

and so that's the fundamental change

226

00:09:21,829 --> 00:09:19,920

here that we are not relying on someone

227

00:09:24,110 --> 00:09:21,839

saying hey look at that I saw something

228

00:09:26,630 --> 00:09:24,120

no we have instruments that are

229

00:09:28,009 --> 00:09:26,640

recording the sky and we understand how

230

00:09:29,990 --> 00:09:28,019

the instruments operate and they don't

231

00:09:32,090 --> 00:09:30,000

have a personality they don't have

232

00:09:34,490 --> 00:09:32,100

hallucinations they don't have ulterior

233

00:09:36,769 --> 00:09:34,500

motives they don't have beliefs or some

234

00:09:38,210 --> 00:09:36,779

Prejudice about what they might see the

235

00:09:41,210 --> 00:09:38,220

instruments are just recording things

236

00:09:43,009 --> 00:09:41,220

and we will use just that data and

237

00:09:45,290 --> 00:09:43,019

anyone in the world can look at that

238

00:09:47,990 --> 00:09:45,300

data and interpret it the same way there

239

00:09:50,990 --> 00:09:48,000

is no way you can you know if a clock

240

00:09:53,389 --> 00:09:51,000

gives you a time you can't just say well

241

00:09:55,009 --> 00:09:53,399

what does this time really mean no you

242

00:09:56,990 --> 00:09:55,019

understand how the Clock Works and then

243

00:09:58,790 --> 00:09:57,000

you know what the time is that's it and

244

00:10:01,190 --> 00:09:58,800

the same about measure taking an image

245

00:10:03,590 --> 00:10:01,200

of the sky and it's not about a person's

246

00:10:05,509 --> 00:10:03,600

impression it's it's an instrument so

247

00:10:07,190 --> 00:10:05,519

that's the first facet of the project

248

00:10:08,630 --> 00:10:07,200

that it's based on instruments not on

249

00:10:11,449 --> 00:10:08,640

people and that's the way science

250

00:10:14,630 --> 00:10:11,459

operates and the second is what do you

251
00:10:16,250 --> 00:10:14,640
do with the data and once again you know

252
00:10:18,590 --> 00:10:16,260
we're trying to be as subjective as

253
00:10:21,050 --> 00:10:18,600
possible so people can apply the same

254
00:10:23,690 --> 00:10:21,060
method and nowadays we have artificial

255
00:10:25,550 --> 00:10:23,700
intelligence algorithms that can be

256
00:10:27,889 --> 00:10:25,560
trained so in other words if you have

257
00:10:30,350 --> 00:10:27,899
software that you can train on things

258
00:10:32,389 --> 00:10:30,360
that you know like for example you tell

259
00:10:34,790 --> 00:10:32,399
it this is an airplane from different

260
00:10:36,410 --> 00:10:34,800
angles these are a variety of airplanes

261
00:10:39,290 --> 00:10:36,420
that are in the sky basically educated

262
00:10:41,690 --> 00:10:39,300
like a kid you you give it lessons about

263
00:10:43,910 --> 00:10:41,700

what might be in the sky so you train it

264

00:10:45,290 --> 00:10:43,920

to identify an airplane and maybe you go

265

00:10:47,090 --> 00:10:45,300

through a lot of iterations where it

266

00:10:48,710 --> 00:10:47,100

looks at airplanes in the sky and you

267

00:10:51,110 --> 00:10:48,720

say that is an airplane and so it

268

00:10:53,930 --> 00:10:51,120

understands it so then that's one thing

269

00:10:57,769 --> 00:10:53,940

then you train it on on drones you train

270

00:11:00,170 --> 00:10:57,779

it on birds you train it on so in that

271

00:11:03,290 --> 00:11:00,180

sense the the artificial intelligence

272

00:11:06,050 --> 00:11:03,300

system is again something that is not

273

00:11:08,030 --> 00:11:06,060

human but at least you know how you

274

00:11:10,310 --> 00:11:08,040

trained it and you you can apply it to

275

00:11:12,290 --> 00:11:10,320

any data set and that will identify

276

00:11:14,630 --> 00:11:12,300
things of interest for us that are

277

00:11:16,130 --> 00:11:14,640
unusual because then it will at some

278

00:11:18,190 --> 00:11:16,140
point it would say look at that it's

279

00:11:20,990 --> 00:11:18,200
behaving in ways that do not resemble

280

00:11:23,449 --> 00:11:21,000
airplanes drones or Birds it's something

281

00:11:25,430 --> 00:11:23,459
unusual so it will basically alert us

282

00:11:27,710 --> 00:11:25,440
and then of course humans can look at

283

00:11:29,750 --> 00:11:27,720
this but at least we identify the

284

00:11:32,509 --> 00:11:29,760
anomalies the the things that are

285

00:11:35,269 --> 00:11:32,519
outliers based on an objective measure

286

00:11:38,090 --> 00:11:35,279
which is A system that was trained and

287

00:11:39,710 --> 00:11:38,100
of course it might make mistakes but we

288

00:11:41,870 --> 00:11:39,720

could understand those mistakes because

289

00:11:43,970 --> 00:11:41,880

you know it's a computer

290

00:11:45,410 --> 00:11:43,980

yeah no absolutely and it's the thing

291

00:11:46,970 --> 00:11:45,420

you know we've been crying out for

292

00:11:49,430 --> 00:11:46,980

science to take this subject seriously

293

00:11:51,410 --> 00:11:49,440

so to hear all that is for me personally

294

00:11:53,509 --> 00:11:51,420

is really exciting so that yeah that's

295

00:11:55,550 --> 00:11:53,519

really good so I I will tell you what I

296

00:11:58,069 --> 00:11:55,560

noticed over the past year because for

297

00:12:00,230 --> 00:11:58,079

me it was also a learning experience so

298

00:12:03,230 --> 00:12:00,240

I noticed this just like in politics

299

00:12:07,490 --> 00:12:03,240

okay what happens in politics right now

300

00:12:09,290 --> 00:12:07,500

is a very big rift between half one half

301
00:12:10,670 --> 00:12:09,300
of the of society and the other half and

302
00:12:13,790 --> 00:12:10,680
it happens in many countries I'm talking

303
00:12:16,069 --> 00:12:13,800
about the us and this is being driven by

304
00:12:18,110 --> 00:12:16,079
the extreme so you find people on One

305
00:12:21,410 --> 00:12:18,120
extreme of the political Spectrum making

306
00:12:23,569 --> 00:12:21,420
you know unsubstantiated claims and that

307
00:12:25,250 --> 00:12:23,579
triggers people on The Other Extreme to

308
00:12:26,810 --> 00:12:25,260
make us substantiated claims because

309
00:12:28,190 --> 00:12:26,820
they say look at the other side you know

310
00:12:30,110 --> 00:12:28,200
we have to pull in the opposite

311
00:12:32,630 --> 00:12:30,120
direction and then what ends up

312
00:12:34,670 --> 00:12:32,640
dominating the discussion are people on

313
00:12:38,030 --> 00:12:34,680

the extremes making statements that make

314

00:12:40,509 --> 00:12:38,040

no sense okay and that's unfortunate and

315

00:12:43,730 --> 00:12:40,519

they basically fuel each other because

316

00:12:45,590 --> 00:12:43,740

by making unsubstantiated claims on one

317

00:12:48,410 --> 00:12:45,600

side you basically allow the other side

318

00:12:50,930 --> 00:12:48,420

to make no sense as well because they

319

00:12:53,389 --> 00:12:50,940

say look at that side you know and so

320

00:12:55,310 --> 00:12:53,399

each side is pulling to the extreme now

321

00:12:57,470 --> 00:12:55,320

in the subject of unidentified aerial

322

00:12:59,329 --> 00:12:57,480

phenomena I noticed the same thing

323

00:13:00,430 --> 00:12:59,339

on the one hand you have the scientific

324

00:13:03,050 --> 00:13:00,440

community

325

00:13:05,150 --> 00:13:03,060

that says Ah there is nothing forget

326

00:13:07,250 --> 00:13:05,160

about it let's move on let's focus on

327

00:13:09,829 --> 00:13:07,260

things that are mainstream

328

00:13:11,329 --> 00:13:09,839

okay but when you have some evidence of

329

00:13:12,410 --> 00:13:11,339

things that are intriguing that doesn't

330

00:13:14,870 --> 00:13:12,420

make sense

331

00:13:17,449 --> 00:13:14,880

on the other hand you have people who

332

00:13:20,150 --> 00:13:17,459

have sort of like religious beliefs they

333

00:13:22,670 --> 00:13:20,160

think oh I had some experience when I

334

00:13:26,569 --> 00:13:22,680

was seven years old of seeing something

335

00:13:29,329 --> 00:13:26,579

bright in my uh you know near my bed

336

00:13:32,150 --> 00:13:29,339

when I went to sleep and as a result I'm

337

00:13:33,350 --> 00:13:32,160

a believer I'm an experimenter and you

338

00:13:37,670 --> 00:13:33,360

know it's sort of like a religious

339

00:13:40,730 --> 00:13:37,680

belief now these people that believe

340

00:13:42,949 --> 00:13:40,740

you know behave as if they regard this

341

00:13:44,210 --> 00:13:42,959

matter as a religious matter in the

342

00:13:47,930 --> 00:13:44,220

sense that they would believe anything

343

00:13:50,389 --> 00:13:47,940

so if someone in Ukraine will claim

344

00:13:52,850 --> 00:13:50,399

something that looks similar to what you

345

00:13:54,710 --> 00:13:52,860

know Pilots Navy Pilots claimed 20 years

346

00:13:56,990 --> 00:13:54,720

ago they would say it must be true why

347

00:13:58,430 --> 00:13:57,000

it must be true because it resembles

348

00:14:00,710 --> 00:13:58,440

what the other people say

349

00:14:03,829 --> 00:14:00,720

to me it looks like anyone can say

350

00:14:05,329 --> 00:14:03,839

anything like I can say look now in the

351
00:14:07,670 --> 00:14:05,339
sky there is something really unusual

352
00:14:09,949 --> 00:14:07,680
there that looks like the Nimitz

353
00:14:12,410 --> 00:14:09,959
and so why would you believe me if I

354
00:14:14,509 --> 00:14:12,420
just said that I have to substantiate

355
00:14:16,490 --> 00:14:14,519
this claim I have to provide evidence

356
00:14:18,590 --> 00:14:16,500
for that that's the way science is done

357
00:14:20,030 --> 00:14:18,600
that's the middle ground that's the

358
00:14:23,389 --> 00:14:20,040
common sense

359
00:14:26,030 --> 00:14:23,399
so what I see on this subject are people

360
00:14:28,550 --> 00:14:26,040
on the one hand making unsubstantiated

361
00:14:31,430 --> 00:14:28,560
claim that completely discredit the

362
00:14:33,350 --> 00:14:31,440
study of UAP on the other hand people

363
00:14:36,530 --> 00:14:33,360

that have sort of like a religious

364

00:14:38,629 --> 00:14:36,540

conviction that any nonsense being said

365

00:14:40,730 --> 00:14:38,639

about UAP must be right because it was

366

00:14:42,470 --> 00:14:40,740

said 20 years ago without the evidence

367

00:14:44,870 --> 00:14:42,480

necessary for that

368

00:14:46,850 --> 00:14:44,880

okay and they fuel each other because

369

00:14:49,069 --> 00:14:46,860

when the scientists see those other

370

00:14:52,490 --> 00:14:49,079

people that behave like religious

371

00:14:54,829 --> 00:14:52,500

believers they say look at that makes no

372

00:14:56,509 --> 00:14:54,839

sense why should we engage in that let's

373

00:14:58,430 --> 00:14:56,519

forget about it

374

00:15:00,410 --> 00:14:58,440

and then when the other people see the

375

00:15:01,970 --> 00:15:00,420

scientists they say oh wow they're

376

00:15:03,949 --> 00:15:01,980

hiding the government is hiding

377

00:15:06,470 --> 00:15:03,959

something the scientists we must believe

378

00:15:08,750 --> 00:15:06,480

in that so both of these things make no

379

00:15:10,970 --> 00:15:08,760

sense what we need to do is collect data

380

00:15:12,829 --> 00:15:10,980

evidence that would allow us to figure

381

00:15:14,629 --> 00:15:12,839

out what it is now when the government

382

00:15:16,550 --> 00:15:14,639

comes forward and says there are things

383

00:15:19,069 --> 00:15:16,560

we don't understand you know I don't

384

00:15:21,050 --> 00:15:19,079

hold them I don't put any blame on that

385

00:15:22,970 --> 00:15:21,060

because the government is not a

386

00:15:25,250 --> 00:15:22,980

scientific organization so I believe

387

00:15:27,290 --> 00:15:25,260

them you know I think the government is

388

00:15:29,870 --> 00:15:27,300

not a scientific entity that can figure

389

00:15:32,509 --> 00:15:29,880

out things and they just see it because

390

00:15:34,370 --> 00:15:32,519

they monitor the sky and for national

391

00:15:37,310 --> 00:15:34,380

security purposes you know they have a

392

00:15:39,889 --> 00:15:37,320

very practical uh task to protect the

393

00:15:42,230 --> 00:15:39,899

nation and at the same time to protect

394

00:15:44,150 --> 00:15:42,240

military personnel okay so that's the

395

00:15:46,129 --> 00:15:44,160

goal of the government and given that

396

00:15:47,810 --> 00:15:46,139

goal they monitor the sky now they

397

00:15:49,670 --> 00:15:47,820

monitor the sky with sensors that are

398

00:15:51,650 --> 00:15:49,680

classified they will never give you that

399

00:15:53,449 --> 00:15:51,660

data and they see things they don't

400

00:15:54,650 --> 00:15:53,459

understand okay that's not their job you

401
00:15:57,530 --> 00:15:54,660
know if it's not a national security

402
00:16:00,230 --> 00:15:57,540
threat it's not really their job so here

403
00:16:02,150 --> 00:16:00,240
comes the the role of science to say

404
00:16:03,470 --> 00:16:02,160
Let's Help the government this is a

405
00:16:06,250 --> 00:16:03,480
subject of interest to the public

406
00:16:09,470 --> 00:16:06,260
subject of interest to the government

407
00:16:11,810 --> 00:16:09,480
let's not go to the extremes either

408
00:16:14,210 --> 00:16:11,820
discrediting the subject just because

409
00:16:16,370 --> 00:16:14,220
there are some Believers that say

410
00:16:18,110 --> 00:16:16,380
anything unusual like all the time there

411
00:16:21,170 --> 00:16:18,120
are UFOs in the sky all the time I see

412
00:16:22,250 --> 00:16:21,180
them in my uh bedroom uh you know all

413
00:16:24,769 --> 00:16:22,260

these things

414

00:16:26,389 --> 00:16:24,779

if there is no evidence on one side no

415

00:16:28,430 --> 00:16:26,399

evidence on the other side let's just

416

00:16:29,870 --> 00:16:28,440

figure the evidence ourselves and and

417

00:16:32,269 --> 00:16:29,880

that's the way science should be done

418

00:16:35,389 --> 00:16:32,279

and I think that's the same you know

419

00:16:38,509 --> 00:16:35,399

Common sensical way to approach it which

420

00:16:40,430 --> 00:16:38,519

unfortunately was not you know pursued

421

00:16:43,009 --> 00:16:40,440

in the past and so that's what the

422

00:16:44,930 --> 00:16:43,019

Galileo project is trying to do yeah no

423

00:16:47,569 --> 00:16:44,940

that's impressive definitely and much

424

00:16:49,670 --> 00:16:47,579

appreciated now in a recent paper and

425

00:16:51,889 --> 00:16:49,680

article that you wrote entitled down to

426

00:16:54,350 --> 00:16:51,899

earth limits on unidentified aerial

427

00:16:56,569 --> 00:16:54,360

phenomena regarding the recent report by

428

00:16:58,790 --> 00:16:56,579

astronomers in the Ukraine you concluded

429

00:17:00,290 --> 00:16:58,800

that the reported speeds and sizes of

430

00:17:02,329 --> 00:17:00,300

the Phantom objects would have generated

431

00:17:04,970 --> 00:17:02,339

Fireballs of detectable Optical

432

00:17:07,370 --> 00:17:04,980

Luminosity at their suggested distances

433

00:17:09,650 --> 00:17:07,380

so my question is and I will caveat this

434

00:17:11,329 --> 00:17:09,660

by saying it's hypothetical but if new

435

00:17:13,010 --> 00:17:11,339

physics was involved and the objects

436

00:17:15,770 --> 00:17:13,020

we're utilizing let's say a warp drive

437

00:17:17,870 --> 00:17:15,780

maybe something like the Alcubierre

438

00:17:20,329 --> 00:17:17,880

drive then wouldn't that fit with what

439

00:17:22,490 --> 00:17:20,339

was written in the report hypothetically

440

00:17:25,189 --> 00:17:22,500

uh no because

441

00:17:28,130 --> 00:17:25,199

um the thing is in order to block light

442

00:17:30,830 --> 00:17:28,140

these objects were reported as dark okay

443

00:17:34,370 --> 00:17:30,840

so that means that they block light

444

00:17:37,010 --> 00:17:34,380

so if light comes from behind them they

445

00:17:39,110 --> 00:17:37,020

block it that was the quality of the

446

00:17:42,890 --> 00:17:39,120

objects that the paper from Ukraine

447

00:17:46,370 --> 00:17:42,900

claimed okay now what is light light is

448

00:17:48,529 --> 00:17:46,380

electromagnetic waves so to block light

449

00:17:50,750 --> 00:17:48,539

you really need to have electromagnetic

450

00:17:53,150 --> 00:17:50,760

interactions the object has to block

451
00:17:54,830 --> 00:17:53,160
okay so if there is electromagnetic

452
00:17:56,830 --> 00:17:54,840
interaction there is no way for the

453
00:17:58,850 --> 00:17:56,840
object to distinguish between

454
00:18:02,270 --> 00:17:58,860
electromagnetic interaction with light

455
00:18:04,669 --> 00:18:02,280
and electromagnetic interaction with the

456
00:18:07,730 --> 00:18:04,679
molecules of air or with electrons in

457
00:18:11,750 --> 00:18:07,740
the air it must respond to the electric

458
00:18:14,330 --> 00:18:11,760
and magnetic fields of electrons in the

459
00:18:16,130 --> 00:18:14,340
atmosphere of the earth okay and if it

460
00:18:17,570 --> 00:18:16,140
responds to those electric and magnetic

461
00:18:19,610 --> 00:18:17,580
fields because it responds to the

462
00:18:22,130 --> 00:18:19,620
electrical magnetic fields of light

463
00:18:24,230 --> 00:18:22,140

I don't care what physics it operates by

464

00:18:26,510 --> 00:18:24,240

it doesn't matter if it responds to one

465

00:18:28,490 --> 00:18:26,520

set of electric and magnetic fields it

466

00:18:30,890 --> 00:18:28,500

must respond to the other because in

467

00:18:32,930 --> 00:18:30,900

physics there is no distinction no

468

00:18:34,909 --> 00:18:32,940

fingerprint that says this is an

469

00:18:37,669 --> 00:18:34,919

electric and magnetic field of light and

470

00:18:39,770 --> 00:18:37,679

it'd be a new behave and a new uh

471

00:18:41,330 --> 00:18:39,780

respond to it in a different way than

472

00:18:44,090 --> 00:18:41,340

you respond to the electric and magnetic

473

00:18:46,250 --> 00:18:44,100

field of of electrons that are you know

474

00:18:49,130 --> 00:18:46,260

bouncing off the surface of the of the

475

00:18:52,010 --> 00:18:49,140

of whatever object it is so my point was

476
00:18:54,590 --> 00:18:52,020
simple that if you if you claim that the

477
00:18:57,169 --> 00:18:54,600
object is dark on the background of

478
00:18:59,630 --> 00:18:57,179
light then you can't claim that it will

479
00:19:02,270 --> 00:18:59,640
not create a Fireball by deflect you

480
00:19:04,610 --> 00:19:02,280
know bouncing off the air as it moves

481
00:19:07,310 --> 00:19:04,620
through it that was the argument and so

482
00:19:08,630 --> 00:19:07,320
then you must get a fireball uh on the

483
00:19:10,490 --> 00:19:08,640
other hand if you say the object is

484
00:19:12,590 --> 00:19:10,500
transparent and it doesn't really do

485
00:19:14,750 --> 00:19:12,600
anything to light I have no issue with

486
00:19:16,850 --> 00:19:14,760
that it will potentially also move

487
00:19:19,250 --> 00:19:16,860
through I mean for example imagine an

488
00:19:21,950 --> 00:19:19,260

object made of Dark Matter dark matter

489

00:19:23,990 --> 00:19:21,960

by Edition is not interacting with light

490

00:19:26,930 --> 00:19:24,000

we know that it exists in the universe

491

00:19:29,690 --> 00:19:26,940

in fact it not just exists it's the main

492

00:19:31,430 --> 00:19:29,700

substance that makes the mass budget of

493

00:19:33,770 --> 00:19:31,440

matter in the universe we don't know

494

00:19:36,230 --> 00:19:33,780

what it is it's dark it doesn't interact

495

00:19:40,610 --> 00:19:36,240

with light we know that galaxies are

496

00:19:44,150 --> 00:19:40,620

made mostly you know 84 of the mass in

497

00:19:46,789 --> 00:19:44,160

the universe is dark matter and and only

498

00:19:49,010 --> 00:19:46,799

uh 16 is the matter that we are made of

499

00:19:51,049 --> 00:19:49,020

okay so when you think about that matter

500

00:19:53,330 --> 00:19:51,059

you know it doesn't interact with light

501
00:19:55,130 --> 00:19:53,340
if it if it goes through the atmosphere

502
00:19:57,650 --> 00:19:55,140
of the earth it will not create a shock

503
00:19:59,570 --> 00:19:57,660
no Fireball nothing I have no issue with

504
00:20:01,370 --> 00:19:59,580
that so as long as it doesn't interact

505
00:20:03,770 --> 00:20:01,380
with light it will not interact with air

506
00:20:07,310 --> 00:20:03,780
nothing so definitely there could be

507
00:20:10,070 --> 00:20:07,320
matter that goes through air without

508
00:20:12,890 --> 00:20:10,080
producing any disturbance dark matter

509
00:20:14,570 --> 00:20:12,900
does it okay because if it didn't do

510
00:20:16,669 --> 00:20:14,580
that we would detect dark dark matter

511
00:20:18,830 --> 00:20:16,679
you know there is a stream of Dark

512
00:20:21,470 --> 00:20:18,840
Matter particles through our bodies

513
00:20:23,150 --> 00:20:21,480

right now through the air we don't have

514

00:20:24,890 --> 00:20:23,160

evidence for that you know lots of

515

00:20:26,150 --> 00:20:24,900

physicists would like to get The Nobel

516

00:20:28,549 --> 00:20:26,160

Prize for finding what the dark matter

517

00:20:30,710 --> 00:20:28,559

is but we know that it exists it

518

00:20:33,049 --> 00:20:30,720

permeates throughout everything but we

519

00:20:34,669 --> 00:20:33,059

just cannot interact with it okay I have

520

00:20:37,789 --> 00:20:34,679

no issue with that we know that such

521

00:20:40,070 --> 00:20:37,799

thing exists okay we know it from the

522

00:20:42,350 --> 00:20:40,080

gravity that it produces in galaxies in

523

00:20:44,270 --> 00:20:42,360

the universe and so forth so there is no

524

00:20:46,430 --> 00:20:44,280

problem with that you can imagine even a

525

00:20:49,130 --> 00:20:46,440

spacecraft made of Dark Matter moving

526
00:20:51,890 --> 00:20:49,140
through but the point is you would not

527
00:20:54,830 --> 00:20:51,900
see it as a dark object blocking light

528
00:20:57,470 --> 00:20:54,840
you will see it as a transparent object

529
00:20:59,570 --> 00:20:57,480
so when the ukrainians the Ukrainian

530
00:21:01,789 --> 00:20:59,580
stormers were claiming it's blocking

531
00:21:04,430 --> 00:21:01,799
light it's dark that's the issue I had

532
00:21:06,350 --> 00:21:04,440
then I said if it blocks like it also

533
00:21:08,870 --> 00:21:06,360
blocks molecules of air creates a

534
00:21:10,190 --> 00:21:08,880
fireball so that's the only issue you

535
00:21:11,930 --> 00:21:10,200
know I appreciate that thank you for

536
00:21:13,669 --> 00:21:11,940
clarifying there and you talked about

537
00:21:15,770 --> 00:21:13,679
Dark Matter there and I was listening to

538
00:21:18,289 --> 00:21:15,780

an interview you did recently on the H3

539

00:21:20,150 --> 00:21:18,299

podcast discussing dark matter and I had

540

00:21:22,789 --> 00:21:20,160

a thought that you know dark matter is

541

00:21:25,310 --> 00:21:22,799

this elusive material let's say that the

542

00:21:28,130 --> 00:21:25,320

Universe comprises of and UAP themselves

543

00:21:31,130 --> 00:21:28,140

are an elusive Enigma as well could

544

00:21:33,950 --> 00:21:31,140

potentially UAP be utilizing Dark Matter

545

00:21:36,529 --> 00:21:33,960

to Traverse the universe maybe multiple

546

00:21:39,289 --> 00:21:36,539

universes could there be yeah I should

547

00:21:41,270 --> 00:21:39,299

say there are two entities in the mass

548

00:21:43,789 --> 00:21:41,280

budget of the universe whose nature we

549

00:21:46,610 --> 00:21:43,799

don't know and both of them are you know

550

00:21:49,250 --> 00:21:46,620

the dominant uh one is dark matter but

551
00:21:52,490 --> 00:21:49,260
there is also Dark Energy you know dark

552
00:21:54,409 --> 00:21:52,500
energy is the is is is the mass density

553
00:21:57,649 --> 00:21:54,419
of the vacuum the mass prevent volume of

554
00:21:59,930 --> 00:21:57,659
the vacuum and we know that you know the

555
00:22:02,330 --> 00:21:59,940
vacuum is basically doesn't change you

556
00:22:06,289 --> 00:22:02,340
know it's fixed so as the universe is

557
00:22:09,669 --> 00:22:06,299
expanding matter gets diluted and about

558
00:22:13,070 --> 00:22:09,679
you know half at half of its present age

559
00:22:15,409 --> 00:22:13,080
Mata became more diluted than the vacuum

560
00:22:17,990 --> 00:22:15,419
so at that point the vacuum started

561
00:22:20,149 --> 00:22:18,000
dominating gravity on on the scale of

562
00:22:23,649 --> 00:22:20,159
the universe that's how we know the

563
00:22:26,870 --> 00:22:23,659

vacuum has non-zero mass per unit volume

564

00:22:29,090 --> 00:22:26,880

and the vacuum in terms of it actually

565

00:22:31,789 --> 00:22:29,100

produces anti-gravity according to

566

00:22:36,289 --> 00:22:31,799

Einstein's theory of general relativity

567

00:22:39,409 --> 00:22:36,299

it actually pushes galaxies away from

568

00:22:40,690 --> 00:22:39,419

each other at an accelerated rate so

569

00:22:43,510 --> 00:22:40,700

just think about

570

00:22:46,730 --> 00:22:43,520

Newton Isaac Newton the discovered

571

00:22:50,029 --> 00:22:46,740

gravity you know originally because the

572

00:22:53,390 --> 00:22:50,039

legend is that he set under a tree in

573

00:22:56,289 --> 00:22:53,400

the orchard that his family had in in

574

00:22:59,630 --> 00:22:56,299

England and an apple fell on his head

575

00:23:02,690 --> 00:22:59,640

now if instead of the earth dominating

576

00:23:04,970 --> 00:23:02,700

gravity near Newton the vacuum was

577

00:23:06,830 --> 00:23:04,980

dominating Gravity the Apple would not

578

00:23:10,190 --> 00:23:06,840

fall down on his head

579

00:23:11,930 --> 00:23:10,200

it will actually fly up at a speed that

580

00:23:13,850 --> 00:23:11,940

keeps increasing as if there is an

581

00:23:15,649 --> 00:23:13,860

explosion you know that that's that's

582

00:23:18,830 --> 00:23:15,659

what the vacuum does it basically

583

00:23:20,810 --> 00:23:18,840

creates negative gravity uh and so then

584

00:23:23,270 --> 00:23:20,820

okay we don't know why we don't know

585

00:23:26,090 --> 00:23:23,280

what you know why the vacuum has

586

00:23:29,390 --> 00:23:26,100

finite mass per unit volume we don't

587

00:23:31,370 --> 00:23:29,400

know what dark matter is and you can

588

00:23:33,890 --> 00:23:31,380

imagine that once you know a

589

00:23:35,690 --> 00:23:33,900

civilization understands the substances

590

00:23:37,310 --> 00:23:35,700

that make these components of the

591

00:23:39,470 --> 00:23:37,320

universe which are the dominant ones

592

00:23:41,930 --> 00:23:39,480

ordinary method that we are made of is

593

00:23:45,049 --> 00:23:41,940

the minority it's only five percent of

594

00:23:47,870 --> 00:23:45,059

the global budget right now and the Dark

595

00:23:52,490 --> 00:23:47,880

Matter makes about 25 percent and the

596

00:23:54,770 --> 00:23:52,500

rest 70 percent is the dark energy so

597

00:23:56,210 --> 00:23:54,780

um and as the universe will expand the

598

00:23:58,070 --> 00:23:56,220

dark energy will become more and more

599

00:24:01,850 --> 00:23:58,080

dominant because matter will get diluted

600

00:24:04,310 --> 00:24:01,860

even more so the point is uh if a

601
00:24:06,590 --> 00:24:04,320
civilization understands what these

602
00:24:08,810 --> 00:24:06,600
constituents are they could engineer it

603
00:24:12,590 --> 00:24:08,820
in principle they couldn't use those

604
00:24:15,169 --> 00:24:12,600
constituents to you know build

605
00:24:17,750 --> 00:24:15,179
spacecraft that take advantage of of

606
00:24:21,710 --> 00:24:17,760
them and potentially Propel themselves

607
00:24:23,690 --> 00:24:21,720
uh you know more efficiently than using

608
00:24:26,750 --> 00:24:23,700
ordinary matter you know all the rockets

609
00:24:29,870 --> 00:24:26,760
that we used so far use ordinary matter

610
00:24:32,210 --> 00:24:29,880
for propulsion chemical propulsion you

611
00:24:34,850 --> 00:24:32,220
know and and and all the rockets that we

612
00:24:37,430 --> 00:24:34,860
launched all the spacecrafts they

613
00:24:39,169 --> 00:24:37,440

reached a speed of about a percent of a

614

00:24:43,430 --> 00:24:39,179

percent of the speed of light 10 to the

615

00:24:46,010 --> 00:24:43,440

minus four so it takes us uh about 50

616

00:24:47,570 --> 00:24:46,020

000 years to reach the nearest star and

617

00:24:49,669 --> 00:24:47,580

it will take us about hundreds of

618

00:24:51,350 --> 00:24:49,679

millions of years to Traverse the Milky

619

00:24:53,570 --> 00:24:51,360

Way galaxy about half a billion years

620

00:24:55,909 --> 00:24:53,580

with chemical Rockets so that's a very

621

00:24:59,390 --> 00:24:55,919

long time if you want to shorten the

622

00:25:02,029 --> 00:24:59,400

time you want to move faster and you

623

00:25:04,549 --> 00:25:02,039

know perhaps using either dark matter or

624

00:25:06,770 --> 00:25:04,559

dark energy you can do that uh we don't

625

00:25:07,850 --> 00:25:06,780

obviously we cannot engineer these

626

00:25:09,409 --> 00:25:07,860

things because we don't know what

627

00:25:12,649 --> 00:25:09,419

they're made of

628

00:25:14,510 --> 00:25:12,659

yeah absolutely moving on um a few weeks

629

00:25:17,029 --> 00:25:14,520

back you flew to Washington DC to meet

630

00:25:18,169 --> 00:25:17,039

with the NASA study committee on UAP so

631

00:25:19,789 --> 00:25:18,179

I'd just like to know how the meeting

632

00:25:21,830 --> 00:25:19,799

was and if you had any major sort of

633

00:25:23,750 --> 00:25:21,840

takeaways from that meeting and then

634

00:25:25,490 --> 00:25:23,760

finally I suppose your thoughts on the

635

00:25:28,370 --> 00:25:25,500

the sort of NASA study coming up for the

636

00:25:30,230 --> 00:25:28,380

next nine months right so um I mean it

637

00:25:32,690 --> 00:25:30,240

was an interesting meeting it's a mixed

638

00:25:34,310 --> 00:25:32,700

committee uh that is made of you know

639

00:25:37,370 --> 00:25:34,320

the composition made of people from

640

00:25:39,470 --> 00:25:37,380

different Paths of life and

641

00:25:41,990 --> 00:25:39,480

um and so I described the Galileo

642

00:25:44,810 --> 00:25:42,000

project they were very uh Curious and

643

00:25:46,430 --> 00:25:44,820

they asked the excellent questions now

644

00:25:49,210 --> 00:25:46,440

with respect to the impact of the

645

00:25:52,549 --> 00:25:49,220

committee it's not at all clear because

646

00:25:55,010 --> 00:25:52,559

uh the Mandate that was given to the

647

00:25:58,669 --> 00:25:55,020

committee the charter was to recommend

648

00:26:01,130 --> 00:25:58,679

to NASA by June 2023

649

00:26:03,890 --> 00:26:01,140

um whether they should allocate funds to

650

00:26:06,470 --> 00:26:03,900

research on this subject now as we

651
00:26:09,649 --> 00:26:06,480
discussed before the Galileo project is

652
00:26:11,390 --> 00:26:09,659
already doing that okay so what's the

653
00:26:14,330 --> 00:26:11,400
best case scenario imagine this

654
00:26:16,010 --> 00:26:14,340
committing getting really excited which

655
00:26:18,409 --> 00:26:16,020
may not be the case maybe they would say

656
00:26:20,210 --> 00:26:18,419
it's not worth studying and so forth you

657
00:26:21,890 --> 00:26:20,220
know it's really a toss-up because it

658
00:26:24,529 --> 00:26:21,900
really depends on the personal views of

659
00:26:27,230 --> 00:26:24,539
we don't have the data to tell us yes

660
00:26:28,669 --> 00:26:27,240
let's do the research because we know

661
00:26:30,590 --> 00:26:28,679
for sure that these are

662
00:26:33,110 --> 00:26:30,600
extraterrestrials

663
00:26:34,750 --> 00:26:33,120

um so you know they might decide one way

664

00:26:36,890 --> 00:26:34,760

or the other depending on their personal

665

00:26:40,430 --> 00:26:36,900

preferences and some members of the

666

00:26:42,230 --> 00:26:40,440

committee Express doubts before they

667

00:26:44,390 --> 00:26:42,240

participate in the committee so who

668

00:26:48,289 --> 00:26:44,400

knows how they will go they might want

669

00:26:51,409 --> 00:26:48,299

to line up with the mainstream as of now

670

00:26:52,570 --> 00:26:51,419

and say in raised out on the study of

671

00:26:55,909 --> 00:26:52,580

this subject

672

00:26:58,370 --> 00:26:55,919

my point is that it may not matter

673

00:27:01,789 --> 00:26:58,380

because they will reach a decision

674

00:27:05,870 --> 00:27:01,799

whether to whether NASA should invest in

675

00:27:08,630 --> 00:27:05,880

that and at what level in June 2023

676
00:27:12,710 --> 00:27:08,640
but in the meantime you know and then of

677
00:27:15,169 --> 00:27:12,720
course it will take some budgeting delay

678
00:27:18,890 --> 00:27:15,179
for NASA even if they decide to to

679
00:27:20,690 --> 00:27:18,900
invest then they will probably solicit

680
00:27:22,850 --> 00:27:20,700
proposals and so it will take another

681
00:27:25,310 --> 00:27:22,860
year before France are allocated for

682
00:27:29,210 --> 00:27:25,320
research so we're talking two years from

683
00:27:31,370 --> 00:27:29,220
now where research will be funded and my

684
00:27:33,890 --> 00:27:31,380
hope is that in those two years the law

685
00:27:36,470 --> 00:27:33,900
project will already get very good clues

686
00:27:38,690 --> 00:27:36,480
about what's in the sky so you know

687
00:27:42,769 --> 00:27:38,700
gladly we were funded by the private

688
00:27:46,070 --> 00:27:42,779

sector so we don't really rely on the

689

00:27:48,769 --> 00:27:46,080

decision by this committee and we can

690

00:27:51,649 --> 00:27:48,779

just move ahead and do the research that

691

00:27:55,850 --> 00:27:51,659

is necessary so I'm saying it's great

692

00:27:57,769 --> 00:27:55,860

that NASA is doing it uh it will be even

693

00:28:01,010 --> 00:27:57,779

greater if they decide to allocate a lot

694

00:28:02,510 --> 00:28:01,020

of funding for This research but then by

695

00:28:04,250 --> 00:28:02,520

the time that they will allocate the

696

00:28:06,950 --> 00:28:04,260

funds hopefully we'll have some good

697

00:28:08,570 --> 00:28:06,960

clues about the nature of these

698

00:28:10,490 --> 00:28:08,580

unidentified objects

699

00:28:12,409 --> 00:28:10,500

I hope you're right I really really do

700

00:28:13,970 --> 00:28:12,419

but at the same time I believe you know

701
00:28:15,830 --> 00:28:13,980
the more eyes on the subject you know

702
00:28:18,710 --> 00:28:15,840
the better so yeah

703
00:28:19,970 --> 00:28:18,720
um now where's my question I've lost it

704
00:28:22,190 --> 00:28:19,980
ah here we go in another one of your

705
00:28:24,350 --> 00:28:22,200
recent articles titled Let It Be an

706
00:28:25,909 --> 00:28:24,360
intelligent signal you write about how

707
00:28:28,070 --> 00:28:25,919
it might look to an extraterrestrial

708
00:28:31,250 --> 00:28:28,080
civilization if a tactical nuclear

709
00:28:33,110 --> 00:28:31,260
weapon was utilized by Putin in this in

710
00:28:34,669 --> 00:28:33,120
this case so would you mind explaining

711
00:28:38,510 --> 00:28:34,679
some of the main points from the article

712
00:28:41,570 --> 00:28:38,520
yeah so frankly I was reminded of a

713
00:28:43,730 --> 00:28:41,580

situation where a kid sits at home and

714

00:28:46,490 --> 00:28:43,740

and the parents are fighting okay and

715

00:28:48,529 --> 00:28:46,500

the kids I mean the the shouts are very

716

00:28:50,990 --> 00:28:48,539

loud and the kid is worried that the

717

00:28:52,310 --> 00:28:51,000

neighbor may hear those shouts and get a

718

00:28:55,669 --> 00:28:52,320

bad impression

719

00:28:59,090 --> 00:28:55,679

uh of the family because

720

00:29:01,970 --> 00:28:59,100

um you know it would imply that you know

721

00:29:03,710 --> 00:29:01,980

things are not going well and and you

722

00:29:05,210 --> 00:29:03,720

know perhaps the family members are not

723

00:29:07,310 --> 00:29:05,220

the most intelligent that you can

724

00:29:09,649 --> 00:29:07,320

imagine them being if you were to just

725

00:29:12,409 --> 00:29:09,659

see them on the street dressed up and

726

00:29:14,149 --> 00:29:12,419

and very politely speaking with them

727

00:29:17,990 --> 00:29:14,159

um and so um

728

00:29:20,049 --> 00:29:18,000

so uh I felt the same thing if you know

729

00:29:23,330 --> 00:29:20,059

I mean um

730

00:29:24,769 --> 00:29:23,340

Russian President Vladimir Putin said

731

00:29:26,330 --> 00:29:24,779

that he's not bluffing over the past

732

00:29:29,930 --> 00:29:26,340

month that he's not bluffing and might

733

00:29:31,850 --> 00:29:29,940

use nuclear weapon in Ukraine and just

734

00:29:35,570 --> 00:29:31,860

imagine a situation where he will

735

00:29:36,830 --> 00:29:35,580

detonate a tactical uh bomb uh nuclear

736

00:29:39,169 --> 00:29:36,840

bomb and

737

00:29:40,789 --> 00:29:39,179

um and that would be that would create a

738

00:29:42,950 --> 00:29:40,799

flare

739

00:29:45,830 --> 00:29:42,960

um a flash of light that could be seen

740

00:29:48,289 --> 00:29:45,840

from a distance so being worried about

741

00:29:50,630 --> 00:29:48,299

what our neighbors might think I just

742

00:29:53,690 --> 00:29:50,640

try to calculate how far away from Earth

743

00:29:56,630 --> 00:29:53,700

would that be visible to a telescope

744

00:29:59,630 --> 00:29:56,640

like for example the web Space Telescope

745

00:30:01,909 --> 00:29:59,640

that we just launched which is the state

746

00:30:05,930 --> 00:30:01,919

of the art in terms of our sensitivity

747

00:30:09,409 --> 00:30:05,940

to flashes coming from elsewhere and so

748

00:30:12,529 --> 00:30:09,419

I I found that actually with the web

749

00:30:14,930 --> 00:30:12,539

telescope you can see uh Putin's um

750

00:30:19,190 --> 00:30:14,940

Act

751
00:30:21,169 --> 00:30:19,200
um only out to a distance which is about

752
00:30:22,789 --> 00:30:21,179
um five percent of the distance to the

753
00:30:24,649 --> 00:30:22,799
nearest star so it's still within the

754
00:30:28,190 --> 00:30:24,659
solar system

755
00:30:30,529 --> 00:30:28,200
um and you know 20 times closer than the

756
00:30:34,909 --> 00:30:30,539
nearest star where we have a habitable

757
00:30:38,269 --> 00:30:34,919
planet so it Proxima Centauri has a

758
00:30:40,909 --> 00:30:38,279
planet next to it which has a surface

759
00:30:43,310 --> 00:30:40,919
temperature similar to Earth and if

760
00:30:45,409 --> 00:30:43,320
there are any astronomers there they

761
00:30:47,330 --> 00:30:45,419
would need a telescope that is 20 times

762
00:30:49,250 --> 00:30:47,340
bigger than the web telescope you know

763
00:30:52,190 --> 00:30:49,260

sort of like a hundred meters in size

764

00:30:56,029 --> 00:30:52,200

the size of a football field in order to

765

00:30:58,430 --> 00:30:56,039

detect Putin's nuclear flash

766

00:31:01,490 --> 00:30:58,440

um meaning that you know even our

767

00:31:04,669 --> 00:31:01,500

biggest explosions are not so unusual

768

00:31:07,490 --> 00:31:04,679

from a distance because a meteor like

769

00:31:09,590 --> 00:31:07,500

the uh second Interstellar meteor that

770

00:31:12,769 --> 00:31:09,600

was about a meter in size when it

771

00:31:14,029 --> 00:31:12,779

exploded in the Earth's atmosphere uh it

772

00:31:15,950 --> 00:31:14,039

released roughly the same amount of

773

00:31:18,950 --> 00:31:15,960

energy so all the time every decade

774

00:31:21,950 --> 00:31:18,960

every few years there is an explosion of

775

00:31:24,409 --> 00:31:21,960

this magnitude from a rock or an object

776

00:31:26,269 --> 00:31:24,419

colliding and burning up with the

777

00:31:29,570 --> 00:31:26,279

Earth's atmosphere

778

00:31:31,610 --> 00:31:29,580

um so um so that would be one so just

779

00:31:34,010 --> 00:31:31,620

from one flash you won't be able to tell

780

00:31:36,049 --> 00:31:34,020

much but if President Biden and other

781

00:31:37,730 --> 00:31:36,059

leaders decide to respond and then there

782

00:31:39,950 --> 00:31:37,740

is another Flash and another flash over

783

00:31:41,750 --> 00:31:39,960

a period of a few days that would

784

00:31:43,549 --> 00:31:41,760

indicate that something unusual is going

785

00:31:45,889 --> 00:31:43,559

on on this planet because usually you

786

00:31:47,810 --> 00:31:45,899

expect those flashes to be separated by

787

00:31:49,909 --> 00:31:47,820

years and so

788

00:31:51,769 --> 00:31:49,919

um to me that would be a signal that

789

00:31:53,450 --> 00:31:51,779

you're looking at a civilization that is

790

00:31:56,389 --> 00:31:53,460

not particularly intelligent because

791

00:32:01,510 --> 00:31:56,399

there are at the risk of annihilating

792

00:32:04,549 --> 00:32:01,520

each other and just because one of those

793

00:32:05,889 --> 00:32:04,559

leaders got frustrated with

794

00:32:08,389 --> 00:32:05,899

um you know

795

00:32:10,669 --> 00:32:08,399

unsubstantiated expectations that leader

796

00:32:13,130 --> 00:32:10,679

expected a reality that is different

797

00:32:15,710 --> 00:32:13,140

than the actual reality and as a result

798

00:32:18,169 --> 00:32:15,720

you know that leader is willing and when

799

00:32:21,289 --> 00:32:18,179

pushed to the corner to annihilate

800

00:32:23,090 --> 00:32:21,299

everyone together with with him so so

801
00:32:25,789 --> 00:32:23,100
that is not a sign of intelligence

802
00:32:29,090 --> 00:32:25,799
because you know if you look at Natural

803
00:32:32,269 --> 00:32:29,100
Selection you know in in nature

804
00:32:34,970 --> 00:32:32,279
um uh often you know it said that the

805
00:32:37,730 --> 00:32:34,980
fittest survives and you know when you

806
00:32:40,970 --> 00:32:37,740
think about Interstellar space whoever

807
00:32:43,669 --> 00:32:40,980
survives the longest is the most

808
00:32:47,090 --> 00:32:43,679
intelligent presumably because

809
00:32:50,389 --> 00:32:47,100
um that's the measure of success in in

810
00:32:52,669 --> 00:32:50,399
terms of natural selection so so you

811
00:32:55,070 --> 00:32:52,679
know I would much rather be in the

812
00:32:57,769 --> 00:32:55,080
company of people that that enjoy nature

813
00:33:00,169 --> 00:32:57,779

have enjoy good food enjoy the company

814

00:33:02,090 --> 00:33:00,179

of friends then people who develop

815

00:33:04,909 --> 00:33:02,100

technologies that can destroy everyone

816

00:33:07,010 --> 00:33:04,919

okay perhaps that's a better part

817

00:33:09,769 --> 00:33:07,020

perhaps that's the answer to fermi's

818

00:33:12,649 --> 00:33:09,779

Paradox where is everybody okay well

819

00:33:15,169 --> 00:33:12,659

either they kill them each other over a

820

00:33:17,450 --> 00:33:15,179

short time or the ones that survived for

821

00:33:20,570 --> 00:33:17,460

a long time just enjoy the good food and

822

00:33:22,549 --> 00:33:20,580

the company of friends on their planet

823

00:33:23,930 --> 00:33:22,559

yeah that's it's interesting it was

824

00:33:25,789 --> 00:33:23,940

really interesting to read through as

825

00:33:27,110 --> 00:33:25,799

well I will just say to anybody watching

826

00:33:29,029 --> 00:33:27,120

or listening if you just head to the

827

00:33:30,590 --> 00:33:29,039

description below I've put the link

828

00:33:32,149 --> 00:33:30,600

where you can go and read all of avi's

829

00:33:34,909 --> 00:33:32,159

essays and believe me they are

830

00:33:36,409 --> 00:33:34,919

absolutely fascinating now in that last

831

00:33:38,029 --> 00:33:36,419

bit you mentioned Interstellar objects

832

00:33:40,310 --> 00:33:38,039

and you recently announced an expedition

833

00:33:42,409 --> 00:33:40,320

to retrieve fragments of an Interstellar

834

00:33:43,549 --> 00:33:42,419

meteor near Papua New Guinea so could

835

00:33:45,950 --> 00:33:43,559

you give us some background on the

836

00:33:48,110 --> 00:33:45,960

object your hopes for the Expedition and

837

00:33:51,110 --> 00:33:48,120

the best possible outcome if it all goes

838

00:33:53,210 --> 00:33:51,120

as planned right so this is the first

839

00:33:56,930 --> 00:33:53,220

object from outside the solar system

840

00:33:57,730 --> 00:33:56,940

that was spotted uh actually by U.S

841

00:34:00,350 --> 00:33:57,740

government

842

00:34:02,210 --> 00:34:00,360

sensors presumably satellites and

843

00:34:05,570 --> 00:34:02,220

ground-based sensors that are monitoring

844

00:34:11,089 --> 00:34:05,580

the sky as a missile warning system and

845

00:34:13,790 --> 00:34:11,099

back in 2014 on January 8th there was an

846

00:34:16,310 --> 00:34:13,800

explosion about 100 miles off the coast

847

00:34:19,730 --> 00:34:16,320

of Papua New Guinea that released a few

848

00:34:23,710 --> 00:34:19,740

percent of the Hiroshima bomb energy and

849

00:34:26,750 --> 00:34:23,720

it was spotted by these sensors and

850

00:34:28,369 --> 00:34:26,760

identified as a meteor as an object that

851
00:34:31,790 --> 00:34:28,379
burned up in the atmosphere that came

852
00:34:33,290 --> 00:34:31,800
from outside Earth but what was unusual

853
00:34:36,169 --> 00:34:33,300
about it is that it moved at 45

854
00:34:38,629 --> 00:34:36,179
kilometers per second when it exploded

855
00:34:41,329 --> 00:34:38,639
and then we calculated with my student

856
00:34:43,190 --> 00:34:41,339
five years later that it actually must

857
00:34:46,129 --> 00:34:43,200
have come from outside the solar system

858
00:34:48,649 --> 00:34:46,139
so we published the paper in 2019 about

859
00:34:50,510 --> 00:34:48,659
it saying this is the first Interstellar

860
00:34:52,369 --> 00:34:50,520
meteor the first Interstellar object

861
00:34:54,710 --> 00:34:52,379
four years almost four years before

862
00:34:55,369 --> 00:34:54,720
omumua which didn't collide with the

863
00:34:58,609 --> 00:34:55,379

Earth

864

00:35:00,710 --> 00:34:58,619

this object was half a meter in size a

865

00:35:03,470 --> 00:35:00,720

hundred times smaller 200 times smaller

866

00:35:06,349 --> 00:35:03,480

than omumua so we could see just because

867

00:35:08,690 --> 00:35:06,359

because of the fireball so it you know

868

00:35:11,089 --> 00:35:08,700

the detection was not relying on it

869

00:35:14,810 --> 00:35:11,099

reflecting sunlight as in the case of a

870

00:35:17,750 --> 00:35:14,820

Momoa and so um it took three years for

871

00:35:20,210 --> 00:35:17,760

the government to officially release a

872

00:35:23,390 --> 00:35:20,220

letter from the U.S space command under

873

00:35:26,690 --> 00:35:23,400

the Department of Defense confirming our

874

00:35:28,910 --> 00:35:26,700

conclusion that indeed you know this

875

00:35:32,089 --> 00:35:28,920

object came from outside the solar

876
00:35:34,609 --> 00:35:32,099
system at the 99.99 confidence

877
00:35:37,069 --> 00:35:34,619
and at that point our paper got accepted

878
00:35:39,589 --> 00:35:37,079
for publication after the reviewers gave

879
00:35:41,150 --> 00:35:39,599
us a hard time for three years because

880
00:35:43,310 --> 00:35:41,160
they said we don't believe the US

881
00:35:46,849 --> 00:35:43,320
government so anyway our paper is

882
00:35:48,589 --> 00:35:46,859
accepted and then we announced this

883
00:35:50,450 --> 00:35:48,599
Expedition and within a couple of months

884
00:35:52,849 --> 00:35:50,460
I received full funding at one and a

885
00:35:54,770 --> 00:35:52,859
half million dollars for it

886
00:35:56,510 --> 00:35:54,780
um I must say that you know there are

887
00:35:59,450 --> 00:35:56,520
lots of people that are very excited

888
00:36:01,550 --> 00:35:59,460

about this line of research so

889

00:36:03,650 --> 00:36:01,560

you know uh

890

00:36:05,510 --> 00:36:03,660

when you work in the mainstream you have

891

00:36:08,390 --> 00:36:05,520

the company of a lot of people you feel

892

00:36:10,730 --> 00:36:08,400

a fuzzy warm feeling that you know you

893

00:36:14,210 --> 00:36:10,740

don't take any risk and everyone is but

894

00:36:16,329 --> 00:36:14,220

once you um you know start to consider

895

00:36:19,790 --> 00:36:16,339

something that could be quite exciting

896

00:36:22,190 --> 00:36:19,800

suddenly you know you find an audience

897

00:36:25,069 --> 00:36:22,200

that of wealthy individuals of people

898

00:36:27,829 --> 00:36:25,079

that are that you know that are excited

899

00:36:29,810 --> 00:36:27,839

by the vision and I I must say that the

900

00:36:32,810 --> 00:36:29,820

funding instead of relying on committees

901
00:36:36,290 --> 00:36:32,820
the funding is much easier to get

902
00:36:38,510 --> 00:36:36,300
through and so we got funded and we now

903
00:36:39,950 --> 00:36:38,520
have a team of the very best people in

904
00:36:43,250 --> 00:36:39,960
the world that have experience with

905
00:36:45,230 --> 00:36:43,260
Expeditions uh we identify the boat we

906
00:36:47,690 --> 00:36:45,240
we are developing the machinery and we

907
00:36:50,150 --> 00:36:47,700
hope to get there within six months and

908
00:36:52,310 --> 00:36:50,160
scoop the ocean floor for the fragments

909
00:36:54,829 --> 00:36:52,320
and basically examine the composition

910
00:36:56,870 --> 00:36:54,839
because from the government data that

911
00:36:59,150 --> 00:36:56,880
came out together with a letter there

912
00:37:01,430 --> 00:36:59,160
was a the fireball light curve of this

913
00:37:04,130 --> 00:37:01,440

explosion and by analyzing it we can

914

00:37:06,530 --> 00:37:04,140

included that the material strength was

915

00:37:10,609 --> 00:37:06,540

tougher than irons that this object was

916

00:37:12,890 --> 00:37:10,619

actually tougher than all 272 other

917

00:37:15,650 --> 00:37:12,900

objects in the catalog of the government

918

00:37:18,589 --> 00:37:15,660

so it's really rare and the question is

919

00:37:21,349 --> 00:37:18,599

whether it was natural or maybe made of

920

00:37:23,210 --> 00:37:21,359

an alloy like stainless steel an

921

00:37:26,990 --> 00:37:23,220

artificial alloy so we want to figure

922

00:37:31,190 --> 00:37:27,000

out whether it was a technological Relic

923

00:37:33,530 --> 00:37:31,200

like a spacecraft rather than a rock and

924

00:37:35,750 --> 00:37:33,540

if we find any gadget on the ocean floor

925

00:37:37,790 --> 00:37:35,760

I already promised the curator of the

926
00:37:40,849 --> 00:37:37,800
Museum of Modern Art in New York City

927
00:37:42,349 --> 00:37:40,859
that I'll bring it for display there

928
00:37:43,750 --> 00:37:42,359
because for us it would represent

929
00:37:46,550 --> 00:37:43,760
modernity

930
00:37:49,250 --> 00:37:46,560
even though for the senders it's ancient

931
00:37:50,810 --> 00:37:49,260
history yeah no it's exciting I'm

932
00:37:52,490 --> 00:37:50,820
looking forward to to following along

933
00:37:53,690 --> 00:37:52,500
with it as it progresses through so

934
00:37:54,890 --> 00:37:53,700
thank you

935
00:37:56,390 --> 00:37:54,900
um I'd like to move on to a few

936
00:37:58,750 --> 00:37:56,400
questions that had been sent from from

937
00:38:00,770 --> 00:37:58,760
uh listeners and um

938
00:38:02,810 --> 00:38:00,780

so Christian

939

00:38:04,790 --> 00:38:02,820

um like to ask um are you potentially

940

00:38:07,550 --> 00:38:04,800

looking at any locations for equipment

941

00:38:09,349 --> 00:38:07,560

situated in or around War zones or

942

00:38:12,470 --> 00:38:09,359

domestic locations with nuclear

943

00:38:14,810 --> 00:38:12,480

facilities yeah so the issue with both

944

00:38:18,890 --> 00:38:14,820

of these is that

945

00:38:22,250 --> 00:38:18,900

um you know that governments are using

946

00:38:24,890 --> 00:38:22,260

uh things that they regard as classified

947

00:38:28,430 --> 00:38:24,900

in those locations you know either

948

00:38:29,870 --> 00:38:28,440

nuclear facilities the the concern in

949

00:38:31,089 --> 00:38:29,880

terms of National Security is that

950

00:38:35,270 --> 00:38:31,099

someone will

951
00:38:38,810 --> 00:38:35,280
sabotage or or um you know have a some

952
00:38:42,470 --> 00:38:38,820
you use some terrorism to impact the

953
00:38:44,569 --> 00:38:42,480
national Safety of of the country and

954
00:38:47,030 --> 00:38:44,579
um so and and in war zones it's even

955
00:38:48,950 --> 00:38:47,040
worse because you know governments are

956
00:38:50,990 --> 00:38:48,960
using all kinds of equipment that they

957
00:38:53,630 --> 00:38:51,000
prefer nobody to know about

958
00:38:55,670 --> 00:38:53,640
and I'm sure that in Ukraine there is a

959
00:38:58,370 --> 00:38:55,680
lot of device there are lots of devices

960
00:39:00,950 --> 00:38:58,380
that you know people are not aware of

961
00:39:03,130 --> 00:39:00,960
that are collecting data that are

962
00:39:06,410 --> 00:39:03,140
directing um

963
00:39:08,270 --> 00:39:06,420

the troops and doing all kinds of things

964

00:39:09,950 --> 00:39:08,280

you know including Espionage and so

965

00:39:11,930 --> 00:39:09,960

forth I'm sure that there is a lot going

966

00:39:13,790 --> 00:39:11,940

on that we are not aware of that

967

00:39:15,530 --> 00:39:13,800

reporters do not really I mean things

968

00:39:16,910 --> 00:39:15,540

flying in the sky their reporters are

969

00:39:21,050 --> 00:39:16,920

not monitoring them

970

00:39:23,210 --> 00:39:21,060

uh and so once you go to these areas and

971

00:39:25,430 --> 00:39:23,220

you start monitoring the sky and

972

00:39:27,349 --> 00:39:25,440

dispersing the data you will get into

973

00:39:29,990 --> 00:39:27,359

trouble because governments will start

974

00:39:31,130 --> 00:39:30,000

haunting you and the governments do not

975

00:39:35,089 --> 00:39:31,140

want you

976

00:39:37,130 --> 00:39:35,099

to identify those things because their

977

00:39:39,710 --> 00:39:37,140

adversaries will be aware of them okay

978

00:39:42,829 --> 00:39:39,720

the governments during a war governments

979

00:39:44,690 --> 00:39:42,839

use a lot of devices that they prefer

980

00:39:46,430 --> 00:39:44,700

nobody else to know about

981

00:39:47,870 --> 00:39:46,440

so I don't want to get into trouble

982

00:39:50,690 --> 00:39:47,880

frankly

983

00:39:53,210 --> 00:39:50,700

and I think the reason that there were

984

00:39:56,569 --> 00:39:53,220

lots of reports by military personnel by

985

00:40:00,829 --> 00:39:56,579

people near you know nuclear sites is

986

00:40:02,270 --> 00:40:00,839

because these parts of of the sky were

987

00:40:04,069 --> 00:40:02,280

monitored you know the government

988

00:40:06,890 --> 00:40:04,079

monitors them for national security

989

00:40:10,790 --> 00:40:06,900

purposes so obviously when you monitor

990

00:40:12,349 --> 00:40:10,800

you see unusual things but so far when

991

00:40:15,950 --> 00:40:12,359

we looked at the statistics of

992

00:40:19,130 --> 00:40:15,960

unidentified objects it looks like it's

993

00:40:21,349 --> 00:40:19,140

a perfectly correlated with population

994

00:40:23,390 --> 00:40:21,359

density or or the frequency of

995

00:40:26,210 --> 00:40:23,400

monitoring the sky so the more people

996

00:40:28,910 --> 00:40:26,220

monitor this monitoring the sky the more

997

00:40:31,030 --> 00:40:28,920

reports you have the more cameras are

998

00:40:33,650 --> 00:40:31,040

looking around be it military or

999

00:40:36,290 --> 00:40:33,660

civilian the more reports you have so

1000

00:40:38,150 --> 00:40:36,300

it's a very simple correlation and if

1001

00:40:39,650 --> 00:40:38,160

you look at all the UAP reports

1002

00:40:42,589 --> 00:40:39,660

throughout history you will find that

1003

00:40:44,630 --> 00:40:42,599

correlation so what does it tell you it

1004

00:40:47,990 --> 00:40:44,640

tells you that maybe it's everywhere

1005

00:40:49,910 --> 00:40:48,000

okay because the regions that you

1006

00:40:52,609 --> 00:40:49,920

monitor the most have the most reports

1007

00:40:54,829 --> 00:40:52,619

and it's exactly proportional if you

1008

00:40:58,310 --> 00:40:54,839

monitor more in one region you see more

1009

00:41:01,190 --> 00:40:58,320

UAP okay so my point is

1010

00:41:02,750 --> 00:41:01,200

you know let's first start with neutral

1011

00:41:04,609 --> 00:41:02,760

regions because then we don't get into

1012

00:41:07,130 --> 00:41:04,619

trouble with governments

1013

00:41:09,290 --> 00:41:07,140

because so far the correlation between

1014

00:41:12,349 --> 00:41:09,300

number of reports and population density

1015

00:41:13,790 --> 00:41:12,359

is perfect it's a perfect correlation I

1016

00:41:15,950 --> 00:41:13,800

don't see it being non-linear in other

1017

00:41:18,530 --> 00:41:15,960

words I don't see a situation where the

1018

00:41:20,569 --> 00:41:18,540

10 times more reports if the population

1019

00:41:23,450 --> 00:41:20,579

density or or the number of people

1020

00:41:26,569 --> 00:41:23,460

monitoring the sky is just two times

1021

00:41:29,210 --> 00:41:26,579

more so it's not as if the number of

1022

00:41:33,530 --> 00:41:29,220

reports is grows much faster

1023

00:41:35,390 --> 00:41:33,540

uh in those particular areas it's it's a

1024

00:41:37,730 --> 00:41:35,400

completely linear you have 10 times more

1025

00:41:39,710 --> 00:41:37,740

people you get 10 times more reports you

1026
00:41:43,069 --> 00:41:39,720
have 10 times more military personnel in

1027
00:41:46,069 --> 00:41:43,079
those regions in in war zones or in in

1028
00:41:49,190 --> 00:41:46,079
any areas that you know Pilots Patrol

1029
00:41:50,750 --> 00:41:49,200
you have many more eyes on the sky so

1030
00:41:52,250 --> 00:41:50,760
you see that the number of reports is

1031
00:41:54,650 --> 00:41:52,260
just proportional to the number of eyes

1032
00:41:57,530 --> 00:41:54,660
looking at the sky that's it if those

1033
00:42:01,069 --> 00:41:57,540
areas were preferred you would see much

1034
00:42:04,250 --> 00:42:01,079
bigger abundance of UAP reports than the

1035
00:42:06,530 --> 00:42:04,260
number of people monitoring them and act

1036
00:42:09,109 --> 00:42:06,540
the statistics doesn't show that and

1037
00:42:11,390 --> 00:42:09,119
therefore I say let's avoid problematic

1038
00:42:13,069 --> 00:42:11,400

regions first and also the other reason

1039

00:42:15,230 --> 00:42:13,079

to do that is because there is a lot of

1040

00:42:16,790 --> 00:42:15,240

noise in this region in these regions

1041

00:42:18,770 --> 00:42:16,800

you know in war zones you have a lot of

1042

00:42:20,870 --> 00:42:18,780

things flying in the sky

1043

00:42:25,250 --> 00:42:20,880

so then we have to not only worry about

1044

00:42:27,470 --> 00:42:25,260

birds or drones or airplanes we have to

1045

00:42:29,750 --> 00:42:27,480

worry about all kinds of gadgets that

1046

00:42:32,089 --> 00:42:29,760

some governments are using for Espionage

1047

00:42:34,609 --> 00:42:32,099

we have to worry about you know uh

1048

00:42:38,030 --> 00:42:34,619

satellites that are hovering around just

1049

00:42:39,530 --> 00:42:38,040

to collect intelligence so there are

1050

00:42:41,569 --> 00:42:39,540

lots of things to worry about why should

1051

00:42:43,849 --> 00:42:41,579

I worry about more things let's first

1052

00:42:47,150 --> 00:42:43,859

start with the simple environments

1053

00:42:48,890 --> 00:42:47,160

yeah so just carrying on from that you

1054

00:42:51,230 --> 00:42:48,900

know we recently heard a lot about a

1055

00:42:53,390 --> 00:42:51,240

multitude of sightings by commercial and

1056

00:42:55,370 --> 00:42:53,400

private Pilots known as the racetrack

1057

00:42:57,710 --> 00:42:55,380

UAP kind of spanning from the American

1058

00:42:59,089 --> 00:42:57,720

Midwest across to the West Coast would

1059

00:43:01,370 --> 00:42:59,099

that be more like a neutral location

1060

00:43:04,130 --> 00:43:01,380

somewhere in there is that something

1061

00:43:05,870 --> 00:43:04,140

you've discussed at all yeah so those

1062

00:43:07,730 --> 00:43:05,880

would be neutral locations that are not

1063

00:43:10,670 --> 00:43:07,740

near any facility that the government

1064

00:43:12,950 --> 00:43:10,680

deems strategic you know

1065

00:43:14,809 --> 00:43:12,960

um and then the other place where there

1066

00:43:17,270 --> 00:43:14,819

were interesting reports are

1067

00:43:20,089 --> 00:43:17,280

um you know near the shores over the

1068

00:43:23,270 --> 00:43:20,099

ocean and so we will definitely attempt

1069

00:43:25,670 --> 00:43:23,280

to visit such locations yes that's

1070

00:43:26,450 --> 00:43:25,680

really interesting thank you

1071

00:43:29,809 --> 00:43:26,460

um

1072

00:43:32,270 --> 00:43:29,819

my next one so Echoes In Lo-Fi says in a

1073

00:43:33,290 --> 00:43:32,280

recent interview with Kurt joymungal Avi

1074

00:43:35,510 --> 00:43:33,300

said that he would investigate

1075

00:43:38,089 --> 00:43:35,520

conducting a range of experiments using

1076
00:43:40,130 --> 00:43:38,099
ce5 to potentially record the appearance

1077
00:43:41,210 --> 00:43:40,140
of UAP and to see if there is a

1078
00:43:43,250 --> 00:43:41,220
potential connection with human

1079
00:43:44,750 --> 00:43:43,260
consciousness is that something you

1080
00:43:46,849 --> 00:43:44,760
intend to look into

1081
00:43:49,609 --> 00:43:46,859
not in the first round but the

1082
00:43:52,250 --> 00:43:49,619
potentially later on so you know we have

1083
00:43:55,190 --> 00:43:52,260
to prioritize the the effort so first we

1084
00:43:57,410 --> 00:43:55,200
start with the instruments looking at

1085
00:43:59,510 --> 00:43:57,420
the sky let's see what we get and then

1086
00:44:02,750 --> 00:43:59,520
as a second phase yes that would be

1087
00:44:05,089 --> 00:44:02,760
interesting because you know the human

1088
00:44:09,349 --> 00:44:05,099

component is obviously important to many

1089

00:44:10,730 --> 00:44:09,359

people so but we want first to just

1090

00:44:13,430 --> 00:44:10,740

um look at what the instruments are

1091

00:44:15,109 --> 00:44:13,440

recording yeah absolutely I'm going to

1092

00:44:16,849 --> 00:44:15,119

move on to a few uh questions that have

1093

00:44:19,550 --> 00:44:16,859

been appearing in the live chat I tried

1094

00:44:22,250 --> 00:44:19,560

to denote them all down if I miss yours

1095

00:44:23,990 --> 00:44:22,260

I apologize so first up Ender Williams

1096

00:44:25,550 --> 00:44:24,000

says will they be releasing the specs

1097

00:44:28,670 --> 00:44:25,560

for the instruments so that it might be

1098

00:44:33,010 --> 00:44:28,680

reproduced by others yeah definitely and

1099

00:44:36,109 --> 00:44:33,020

in fact we have a set of papers that

1100

00:44:37,730 --> 00:44:36,119

will eventually be published about eight

1101
00:44:39,410 --> 00:44:37,740
of them that will be published in the

1102
00:44:41,870 --> 00:44:39,420
Journal of astronomical instrumentation

1103
00:44:43,849 --> 00:44:41,880
that are currently being reviewed and

1104
00:44:46,130 --> 00:44:43,859
they provide the details about the

1105
00:44:48,530 --> 00:44:46,140
instrument so hopefully in the coming

1106
00:44:51,530 --> 00:44:48,540
months by next summer they should be

1107
00:44:53,210 --> 00:44:51,540
published fantastic

1108
00:44:54,829 --> 00:44:53,220
um witness citizen hey Sean how's it

1109
00:44:56,210 --> 00:44:54,839
going Sean asks is there anything that

1110
00:44:58,250 --> 00:44:56,220
could maneuver too quickly or

1111
00:45:00,589 --> 00:44:58,260
erratically to be picked up by his

1112
00:45:02,990 --> 00:45:00,599
sensors or cameras yeah so there is a

1113
00:45:05,450 --> 00:45:03,000

certain frame rate by which we I mean

1114

00:45:08,170 --> 00:45:05,460

any movie any film that you see shows

1115

00:45:10,910 --> 00:45:08,180

you a set of still images

1116

00:45:13,370 --> 00:45:10,920

and the the only question is what's the

1117

00:45:14,990 --> 00:45:13,380

separation in time between those still

1118

00:45:16,490 --> 00:45:15,000

images that gives you the impression of

1119

00:45:20,270 --> 00:45:16,500

a movie and

1120

00:45:23,390 --> 00:45:20,280

um so we will have a frame rate of

1121

00:45:26,030 --> 00:45:23,400

um several tens per second now one thing

1122

00:45:29,450 --> 00:45:26,040

you know there was a report about those

1123

00:45:33,170 --> 00:45:29,460

objects by the the Navy Pilots the

1124

00:45:35,270 --> 00:45:33,180

Nimitz incident where they saw an object

1125

00:45:37,490 --> 00:45:35,280

at one point in the sky then immediately

1126

00:45:40,190 --> 00:45:37,500

after that at another point and they

1127

00:45:42,650 --> 00:45:40,200

said it must be moving very fast one

1128

00:45:44,329 --> 00:45:42,660

issue with that is

1129

00:45:46,609 --> 00:45:44,339

um it could be that it's not the same

1130

00:45:48,710 --> 00:45:46,619

object that objects come in and out of

1131

00:45:51,710 --> 00:45:48,720

view and you see one object at one point

1132

00:45:53,630 --> 00:45:51,720

and then another one uh at another point

1133

00:45:55,190 --> 00:45:53,640

a bit later and you think it's the same

1134

00:45:58,069 --> 00:45:55,200

object but it's not the same so

1135

00:46:00,230 --> 00:45:58,079

obviously having a very fast frame rate

1136

00:46:02,630 --> 00:46:00,240

will allow you to track it if it's the

1137

00:46:04,730 --> 00:46:02,640

same object and the other thing that

1138

00:46:06,829 --> 00:46:04,740

some people suggested maybe it was a

1139

00:46:08,870 --> 00:46:06,839

laser beam that was creating a spot at

1140

00:46:10,730 --> 00:46:08,880

one and then moving to another point and

1141

00:46:12,410 --> 00:46:10,740

making a spot and you know these are the

1142

00:46:14,990 --> 00:46:12,420

kinds of things that we can figure out

1143

00:46:17,750 --> 00:46:15,000

if we have a high frame rate

1144

00:46:19,490 --> 00:46:17,760

yeah great thank you the next question

1145

00:46:21,349 --> 00:46:19,500

comes from Penny does Mr Lowe think

1146

00:46:25,490 --> 00:46:21,359

plasma has an integral part to play in

1147

00:46:28,010 --> 00:46:25,500

UAP presentation a precursor yeah so a

1148

00:46:31,309 --> 00:46:28,020

plasma is a hot gas basically you take

1149

00:46:33,349 --> 00:46:31,319

for example air and you heat it up to

1150

00:46:35,150 --> 00:46:33,359

very high temperatures such that the

1151
00:46:38,270 --> 00:46:35,160
atoms collide with each other and break

1152
00:46:40,250 --> 00:46:38,280
up into free electrons and ions so

1153
00:46:42,890 --> 00:46:40,260
that's what the plasma is it's just a

1154
00:46:45,410 --> 00:46:42,900
state of gas where the atoms are broken

1155
00:46:47,870 --> 00:46:45,420
into their constituents and the charges

1156
00:46:49,790 --> 00:46:47,880
the electrons and the ions

1157
00:46:52,609 --> 00:46:49,800
um and so you get that naturally when

1158
00:46:55,609 --> 00:46:52,619
for example you have an explosion or

1159
00:46:58,190 --> 00:46:55,619
when an object is moving very fast

1160
00:47:00,530 --> 00:46:58,200
through air such that you know it heats

1161
00:47:03,230 --> 00:47:00,540
up the air to high temperatures or when

1162
00:47:04,970 --> 00:47:03,240
you shine a powerful laser on air and

1163
00:47:07,790 --> 00:47:04,980

you create a local explosion then you

1164

00:47:10,910 --> 00:47:07,800

get plasma when you explode a detonate

1165

00:47:13,130 --> 00:47:10,920

an explosive you get a plasma you also

1166

00:47:14,930 --> 00:47:13,140

get it in the sun where there is nuclear

1167

00:47:17,990 --> 00:47:14,940

burning in the center and so everything

1168

00:47:20,390 --> 00:47:18,000

actually most of the ordinary matter in

1169

00:47:23,089 --> 00:47:20,400

the universe is is broken up to three

1170

00:47:27,050 --> 00:47:23,099

electrons and ions and it's in the state

1171

00:47:29,530 --> 00:47:27,060

of a plasma but then when you know our

1172

00:47:32,150 --> 00:47:29,540

body and everything we look around us

1173

00:47:34,670 --> 00:47:32,160

the solid matter is not a plasma it's

1174

00:47:37,370 --> 00:47:34,680

made of atoms that what the charges are

1175

00:47:40,190 --> 00:47:37,380

held together so at any event

1176
00:47:41,990 --> 00:47:40,200
um the plasma is relevant in the sense

1177
00:47:42,890 --> 00:47:42,000
that if you have an object moving very

1178
00:47:45,230 --> 00:47:42,900
fast

1179
00:47:47,329 --> 00:47:45,240
and it interacts with the air it will

1180
00:47:49,370 --> 00:47:47,339
create a plasma around it because it

1181
00:47:51,290 --> 00:47:49,380
will heat up the air and you would see

1182
00:47:52,849 --> 00:47:51,300
we see that with meteors we see the

1183
00:47:55,250 --> 00:47:52,859
fireball that I mentioned before that

1184
00:47:57,650 --> 00:47:55,260
that's the energy released by The

1185
00:48:00,170 --> 00:47:57,660
friction of the object with the air and

1186
00:48:02,510 --> 00:48:00,180
we see also around airplanes that move

1187
00:48:05,930 --> 00:48:02,520
very fast we see that around rockets

1188
00:48:07,270 --> 00:48:05,940

that move around uh projectiles that

1189

00:48:09,410 --> 00:48:07,280

move through air

1190

00:48:12,589 --> 00:48:09,420

especially if they move supersonically

1191

00:48:16,250 --> 00:48:12,599

they they produce a shock a shock wave

1192

00:48:18,589 --> 00:48:16,260

that heats up the air and breaks up the

1193

00:48:19,430 --> 00:48:18,599

atoms and molecules into electrons and

1194

00:48:23,210 --> 00:48:19,440

ions

1195

00:48:26,569 --> 00:48:23,220

so definitely relevant another context

1196

00:48:29,030 --> 00:48:26,579

where it's relevant is if uh you know it

1197

00:48:31,250 --> 00:48:29,040

was not really objects that for example

1198

00:48:34,010 --> 00:48:31,260

the Navy Pilots were seeing it was a

1199

00:48:36,410 --> 00:48:34,020

laser beam focused on air just like you

1200

00:48:39,050 --> 00:48:36,420

know sometimes people try to fool cats

1201
00:48:40,910 --> 00:48:39,060
and they'll shine a laser spot and move

1202
00:48:43,010 --> 00:48:40,920
it around very fast and it's not a real

1203
00:48:46,790 --> 00:48:43,020
object the cat thinks that it's a real

1204
00:48:49,849 --> 00:48:46,800
object so you can in principle fool uh

1205
00:48:52,970 --> 00:48:49,859
you know Pilots by generating a laser

1206
00:48:55,370 --> 00:48:52,980
beam shining it you know on a spot in

1207
00:48:57,589 --> 00:48:55,380
the air creating some plasma ball there

1208
00:49:00,109 --> 00:48:57,599
and that would reflect the radio waves

1209
00:49:01,609 --> 00:49:00,119
and so the pilot would think oh wow

1210
00:49:03,470 --> 00:49:01,619
there is an object there but it's not

1211
00:49:05,750 --> 00:49:03,480
really an object it's just a ball of hot

1212
00:49:07,670 --> 00:49:05,760
air that you create by the laser focus

1213
00:49:09,589 --> 00:49:07,680

there and then you can move the laser

1214

00:49:11,510 --> 00:49:09,599

very quickly to another spot and you

1215

00:49:14,450 --> 00:49:11,520

will think wow this object really moves

1216

00:49:16,730 --> 00:49:14,460

fast so it could be that some of the

1217

00:49:19,069 --> 00:49:16,740

incidents relate to this phenomena and

1218

00:49:21,890 --> 00:49:19,079

someone was just shining laser beams and

1219

00:49:23,930 --> 00:49:21,900

fooling the part I don't know but the

1220

00:49:26,329 --> 00:49:23,940

point is we want to figure it out and

1221

00:49:27,950 --> 00:49:26,339

it's just that the data from the past is

1222

00:49:28,970 --> 00:49:27,960

not good enough for us to tell what it

1223

00:49:30,770 --> 00:49:28,980

was

1224

00:49:32,750 --> 00:49:30,780

so if for example you mentioned that

1225

00:49:35,329 --> 00:49:32,760

these lasers potentially fooling people

1226

00:49:38,089 --> 00:49:35,339

if you were to see a plasma acting in a

1227

00:49:39,290 --> 00:49:38,099

what seemed to be a controlled way how

1228

00:49:41,089 --> 00:49:39,300

would you be able to differentiate

1229

00:49:44,150 --> 00:49:41,099

between it being a laser or something

1230

00:49:47,210 --> 00:49:44,160

genuinely not of this Earth so if you

1231

00:49:50,030 --> 00:49:47,220

have a high frame rate you can tell that

1232

00:49:51,890 --> 00:49:50,040

you know there is a spot at one point

1233

00:49:53,870 --> 00:49:51,900

and then it goes away and then another

1234

00:49:55,550 --> 00:49:53,880

spot is created at another point but

1235

00:49:57,530 --> 00:49:55,560

it's not an object moving through the

1236

00:49:59,030 --> 00:49:57,540

sky from one spot to another you would

1237

00:50:01,670 --> 00:49:59,040

be able to tell that it's two different

1238

00:50:03,829 --> 00:50:01,680

occurrences two explosions that were

1239

00:50:05,390 --> 00:50:03,839

created presumably with a laser the

1240

00:50:07,550 --> 00:50:05,400

other thing is that you might be able to

1241

00:50:09,710 --> 00:50:07,560

see the laser beam as it goes as it gets

1242

00:50:11,569 --> 00:50:09,720

focused you will see it and you will not

1243

00:50:14,210 --> 00:50:11,579

just see the plasma

1244

00:50:16,730 --> 00:50:14,220

um so that's one way you want to see

1245

00:50:20,230 --> 00:50:16,740

that it's a real object okay that's the

1246

00:50:22,970 --> 00:50:20,240

important element uh and a real object

1247

00:50:25,730 --> 00:50:22,980

you know when it interacts with the air

1248

00:50:28,069 --> 00:50:25,740

it creates a sound wave you know that

1249

00:50:31,309 --> 00:50:28,079

you could listen to for example in the

1250

00:50:34,370 --> 00:50:31,319

Galileo project we have microphones that

1251
00:50:36,829 --> 00:50:34,380
go well beyond what the human ear can

1252
00:50:40,609 --> 00:50:36,839
listen to so it starts at what's called

1253
00:50:42,770 --> 00:50:40,619
infrasound and and goes to Ultrasound

1254
00:50:45,109 --> 00:50:42,780
um turns out that the human ear is tuned

1255
00:50:48,109 --> 00:50:45,119
to protect us against threats you know

1256
00:50:50,450 --> 00:50:48,119
so a very long wavelength sound waves

1257
00:50:52,609 --> 00:50:50,460
are not useful for survival because they

1258
00:50:55,309 --> 00:50:52,619
don't carry much information and very

1259
00:50:57,049 --> 00:50:55,319
short wavelength sound waves are also

1260
00:50:58,430 --> 00:50:57,059
not useful for survival because they

1261
00:51:00,890 --> 00:50:58,440
cannot propagate a large distance

1262
00:51:05,030 --> 00:51:00,900
through air but in the Galileo project

1263
00:51:07,010 --> 00:51:05,040

we are expanding the range and using

1264

00:51:09,650 --> 00:51:07,020

um special microphones to detect some

1265

00:51:11,690 --> 00:51:09,660

waves of all types and from the sound

1266

00:51:13,910 --> 00:51:11,700

that an object makes you can tell like

1267

00:51:15,589 --> 00:51:13,920

if it's an explosion by a laser beam it

1268

00:51:17,569 --> 00:51:15,599

will make a very different sound than an

1269

00:51:19,549 --> 00:51:17,579

object moving through air from one point

1270

00:51:21,770 --> 00:51:19,559

to another so we should be able to

1271

00:51:24,349 --> 00:51:21,780

figure it out I I have no doubt about it

1272

00:51:26,809 --> 00:51:24,359

and now the thing that I think people

1273

00:51:28,910 --> 00:51:26,819

jump too quickly to conclude is maybe

1274

00:51:32,390 --> 00:51:28,920

there is some new physics well the point

1275

00:51:34,670 --> 00:51:32,400

point is you know physicists work really

1276

00:51:37,970 --> 00:51:34,680

hard uh and and they have been doing it

1277

00:51:40,069 --> 00:51:37,980

for decades in laboratory experiments to

1278

00:51:41,870 --> 00:51:40,079

look for new physics and you know it's

1279

00:51:43,670 --> 00:51:41,880

very difficult to find new physics the

1280

00:51:46,849 --> 00:51:43,680

sound model of particle physics was not

1281

00:51:48,710 --> 00:51:46,859

really revised in maybe half a century I

1282

00:51:52,250 --> 00:51:48,720

mean the Higgs puzzle was discovered but

1283

00:51:54,530 --> 00:51:52,260

that's all the news from the 60s so uh

1284

00:51:56,809 --> 00:51:54,540

in a way you know it's really unclear

1285

00:51:59,089 --> 00:51:56,819

how much new physics there is and room

1286

00:52:01,250 --> 00:51:59,099

for no physics I just got an email from

1287

00:52:03,829 --> 00:52:01,260

someone an hour ago saying you know

1288

00:52:06,290 --> 00:52:03,839

maybe gravitational waves affect the way

1289

00:52:08,270 --> 00:52:06,300

that an object appears well whoever sent

1290

00:52:09,589 --> 00:52:08,280

me that email doesn't understand in

1291

00:52:12,170 --> 00:52:09,599

order to produce strong gravitational

1292

00:52:13,790 --> 00:52:12,180

waves that would affect what we see you

1293

00:52:16,549 --> 00:52:13,800

really need an object with a mass

1294

00:52:18,710 --> 00:52:16,559

similar to that of the sun okay very big

1295

00:52:20,990 --> 00:52:18,720

object such a very big object the mass

1296

00:52:23,210 --> 00:52:21,000

of the Sun that disturbs space and time

1297

00:52:25,790 --> 00:52:23,220

around it to the level that would create

1298

00:52:29,150 --> 00:52:25,800

gravitational waves that changed our

1299

00:52:32,329 --> 00:52:29,160

view of the object an object that has

1300

00:52:34,190 --> 00:52:32,339

that Mass will move the Earth shake the

1301
00:52:35,329 --> 00:52:34,200
Earth back and forth just by Newton's

1302
00:52:37,309 --> 00:52:35,339
law of gravity forget about

1303
00:52:40,849 --> 00:52:37,319
gravitational waves if you bring another

1304
00:52:43,490 --> 00:52:40,859
sun close to Earth it will just pull the

1305
00:52:46,549 --> 00:52:43,500
Earth and tear it apart break up the

1306
00:52:48,230 --> 00:52:46,559
oceans you can't say oh there is an

1307
00:52:49,670 --> 00:52:48,240
object generating gravitational waves

1308
00:52:51,109 --> 00:52:49,680
that is really anything except

1309
00:52:53,930 --> 00:52:51,119
generating gravitational like that

1310
00:52:56,210 --> 00:52:53,940
doesn't work so people throw out all

1311
00:52:58,370 --> 00:52:56,220
kinds of explanations that really make

1312
00:53:00,829 --> 00:52:58,380
no sense from a physics point of view

1313
00:53:02,569 --> 00:53:00,839

and even if you think about new physics

1314

00:53:05,030 --> 00:53:02,579

you have to make sure that what you're

1315

00:53:07,790 --> 00:53:05,040

talking about makes sense uh you know

1316

00:53:10,730 --> 00:53:07,800

some people talk about wormholes like

1317

00:53:15,349 --> 00:53:10,740

okay well we don't have

1318

00:53:18,349 --> 00:53:15,359

even a a solution that is stable to the

1319

00:53:20,930 --> 00:53:18,359

equations of physics as we know it that

1320

00:53:23,150 --> 00:53:20,940

would allow a wormhole to exist okay so

1321

00:53:25,010 --> 00:53:23,160

you are contemplating something but then

1322

00:53:27,470 --> 00:53:25,020

you have to if you are contemplating it

1323

00:53:28,910 --> 00:53:27,480

just you know try to infer what are the

1324

00:53:31,549 --> 00:53:28,920

properties of this something you can't

1325

00:53:33,170 --> 00:53:31,559

just say Wormhole and say oh I see a

1326

00:53:34,970 --> 00:53:33,180

hole in the clouds that's a wormhole

1327

00:53:36,650 --> 00:53:34,980

like that's not a wormhole a wormhole

1328

00:53:40,010 --> 00:53:36,660

has some properties of space and time

1329

00:53:41,270 --> 00:53:40,020

and you need to show that indeed the you

1330

00:53:43,790 --> 00:53:41,280

know what you're talking about makes

1331

00:53:45,890 --> 00:53:43,800

sense so that is not done by people who

1332

00:53:48,170 --> 00:53:45,900

throw out new physics as if that would

1333

00:53:51,049 --> 00:53:48,180

solve the problem if you have no physics

1334

00:53:53,690 --> 00:53:51,059

in mind it has to you know not only

1335

00:53:55,069 --> 00:53:53,700

explains one thing but also predicts

1336

00:53:56,750 --> 00:53:55,079

something else and it will apply to

1337

00:53:58,730 --> 00:53:56,760

everything in the universe like if you

1338

00:54:00,290 --> 00:53:58,740

have a wormhole here it should exist in

1339

00:54:03,109 --> 00:54:00,300

many other places in the universe we

1340

00:54:05,390 --> 00:54:03,119

haven't seen such a evidence so far so

1341

00:54:08,930 --> 00:54:05,400

you can't just say new physics you know

1342

00:54:11,270 --> 00:54:08,940

just because a Ukrainian astronomer saw

1343

00:54:12,829 --> 00:54:11,280

a gut data that doesn't have good

1344

00:54:15,170 --> 00:54:12,839

distance estimates you can't just say

1345

00:54:17,150 --> 00:54:15,180

that because to argue that there is no

1346

00:54:19,549 --> 00:54:17,160

physics you really need exceptional

1347

00:54:21,710 --> 00:54:19,559

distance estimates and the elementary

1348

00:54:24,109 --> 00:54:21,720

way of measuring distance is by

1349

00:54:25,790 --> 00:54:24,119

triangulation that's really simple you

1350

00:54:27,470 --> 00:54:25,800

just have multiple sites looking at the

1351

00:54:29,510 --> 00:54:27,480

same objective triangulate it you find

1352

00:54:32,210 --> 00:54:29,520

distance the Ukrainian astronomers did

1353

00:54:34,849 --> 00:54:32,220

not do that okay so I pointed out the

1354

00:54:37,190 --> 00:54:34,859

distance estimates are not trustworthy

1355

00:54:39,410 --> 00:54:37,200

then people jumped at me and said why do

1356

00:54:41,630 --> 00:54:39,420

you say that in the Nimitz incident we

1357

00:54:43,549 --> 00:54:41,640

saw things behaving like but that you

1358

00:54:45,470 --> 00:54:43,559

know the Nemesis has nothing to do with

1359

00:54:48,109 --> 00:54:45,480

Ukraine right now in the sense that this

1360

00:54:49,910 --> 00:54:48,119

is a completely new event okay and if

1361

00:54:51,890 --> 00:54:49,920

you don't measure distance correctly you

1362

00:54:53,630 --> 00:54:51,900

can't justify the distance measurement

1363

00:54:55,010 --> 00:54:53,640

by something that happened 20 years ago

1364

00:54:56,870 --> 00:54:55,020

there's something that happened 20 years

1365

00:55:00,470 --> 00:54:56,880

ago doesn't say anything about what the

1366

00:55:02,690 --> 00:55:00,480

Ukrainian astronomer did in 2022 that's

1367

00:55:04,370 --> 00:55:02,700

a completely different set of events you

1368

00:55:05,750 --> 00:55:04,380

can't just say there was an event 20

1369

00:55:08,030 --> 00:55:05,760

years ago therefore this event is

1370

00:55:10,130 --> 00:55:08,040

correct like you have to measure you

1371

00:55:12,170 --> 00:55:10,140

have to show by triangulation the

1372

00:55:15,770 --> 00:55:12,180

distance and they actually measure the

1373

00:55:17,569 --> 00:55:15,780

distance to one luminous object and that

1374

00:55:20,270 --> 00:55:17,579

distance was exactly the distance you

1375

00:55:21,770 --> 00:55:20,280

expect for a spy satellite I just put it

1376

00:55:24,049 --> 00:55:21,780

in Google you know I don't work in

1377

00:55:25,370 --> 00:55:24,059

anything related to spy satellites I

1378

00:55:28,309 --> 00:55:25,380

didn't know what the elevation of spice

1379

00:55:29,390 --> 00:55:28,319

analyzes I just put in Google spy

1380

00:55:31,730 --> 00:55:29,400

satellite

1381

00:55:32,930 --> 00:55:31,740

and here here it is exactly the

1382

00:55:34,970 --> 00:55:32,940

elevation that they were talking about

1383

00:55:37,609 --> 00:55:34,980

now they put it in their paper as an

1384

00:55:39,890 --> 00:55:37,619

unidentified object and I say why didn't

1385

00:55:41,210 --> 00:55:39,900

they just put it in Google and see that

1386

00:55:43,370 --> 00:55:41,220

what they are talking about has the

1387

00:55:46,190 --> 00:55:43,380

properties of a spy satellite like why

1388

00:55:48,770 --> 00:55:46,200

would that look strange in a war

1389

00:55:50,450 --> 00:55:48,780

environment over Ukraine to have a spy

1390

00:55:52,190 --> 00:55:50,460

satellite monitoring what happens on the

1391

00:55:54,470 --> 00:55:52,200

ground so they saw a spy satellite

1392

00:55:56,750 --> 00:55:54,480

that's the only case where they actually

1393

00:55:59,089 --> 00:55:56,760

had two sides looking at an object that

1394

00:56:00,950 --> 00:55:59,099

was actually luminous not dark and I say

1395

00:56:03,230 --> 00:56:00,960

how can you put it in a paper as an

1396

00:56:05,870 --> 00:56:03,240

unidentified object if that's exactly

1397

00:56:08,870 --> 00:56:05,880

the kind of elevation and the kind of

1398

00:56:11,030 --> 00:56:08,880

size of a spy satellite like that to me

1399

00:56:13,549 --> 00:56:11,040

illustrated that they are not careful

1400

00:56:15,890 --> 00:56:13,559

no I appreciate you you sort of coming

1401

00:56:17,809 --> 00:56:15,900

on and being able to sort of follow on

1402

00:56:19,910 --> 00:56:17,819

from that article and give your side of

1403

00:56:21,170 --> 00:56:19,920

it so yeah thank you for that

1404

00:56:23,390 --> 00:56:21,180

um just before we finish up I'm going to

1405

00:56:25,010 --> 00:56:23,400

go to this question from Jay Allen uh

1406

00:56:27,290 --> 00:56:25,020

has avi's team been given any specific

1407

00:56:29,690 --> 00:56:27,300

areas to focus on Via Lou Elizondo

1408

00:56:31,549 --> 00:56:29,700

meaning specific spectrums and Telemetry

1409

00:56:34,609 --> 00:56:31,559

to focus on measuring for data

1410

00:56:36,170 --> 00:56:34,619

acquisition yeah so of course Lou is

1411

00:56:39,349 --> 00:56:36,180

part of the team and the same is Chris

1412

00:56:40,670 --> 00:56:39,359

melon but they did not they cannot

1413

00:56:42,589 --> 00:56:40,680

disclose

1414

00:56:44,809 --> 00:56:42,599

um classified information they signed an

1415

00:56:47,150 --> 00:56:44,819

NDA when they worked in government so we

1416

00:56:49,609 --> 00:56:47,160

we're not asking them for anything so

1417

00:56:52,130 --> 00:56:49,619

they did not really guide us they they

1418

00:56:53,750 --> 00:56:52,140

just made General statements similar to

1419

00:56:55,849 --> 00:56:53,760

the public statements that everyone else

1420

00:56:58,430 --> 00:56:55,859

heard

1421

00:57:00,890 --> 00:56:58,440

um and you know of course in principle

1422

00:57:03,170 --> 00:57:00,900

they can just tell us don't do that like

1423

00:57:05,210 --> 00:57:03,180

if we are saying we will do this and

1424

00:57:07,490 --> 00:57:05,220

they say no it's a waste of your time so

1425

00:57:10,130 --> 00:57:07,500

far you know they haven't said it to us

1426

00:57:12,530 --> 00:57:10,140

and but otherwise they didn't give me

1427

00:57:14,809 --> 00:57:12,540

any special specific data or information

1428

00:57:17,089 --> 00:57:14,819

and frankly I don't want them to get

1429

00:57:19,549 --> 00:57:17,099

into trouble so I'm not as you know my

1430

00:57:23,170 --> 00:57:19,559

Approach is just like a kid I I want to

1431

00:57:27,650 --> 00:57:23,180

get the data you know fresh and without

1432

00:57:29,450 --> 00:57:27,660

any issues with authorities because why

1433

00:57:30,589 --> 00:57:29,460

should we get into trouble if we don't

1434

00:57:33,290 --> 00:57:30,599

need to

1435

00:57:34,609 --> 00:57:33,300

yeah I appreciate that well listen

1436

00:57:35,750 --> 00:57:34,619

Before We Say Goodbye Abby I'm just

1437

00:57:37,190 --> 00:57:35,760

going to give a quick shout out to Jimmy

1438

00:57:39,230 --> 00:57:37,200

thank you so much for the five dollar

1439

00:57:40,670 --> 00:57:39,240

donation as I mentioned earlier to

1440

00:57:43,490 --> 00:57:40,680

everyone watching and listening please

1441

00:57:45,530 --> 00:57:43,500

go and check out avi's essays the link

1442

00:57:47,690 --> 00:57:45,540

is below but also the Galileo website

1443

00:57:49,809 --> 00:57:47,700

and you can also donate to the Galileo

1444

00:57:51,950 --> 00:57:49,819

project as well if you feel so inclined

1445

00:57:53,329 --> 00:57:51,960

Avi thank you so much for joining me

1446

00:57:54,650 --> 00:57:53,339

again it's always an honor and a

1447

00:57:56,270 --> 00:57:54,660

pleasure to speak with you so thank you

1448

00:57:59,270 --> 00:57:56,280

thank you so much and we will do our

1449

00:58:02,329 --> 00:57:59,280

best to bring some news within a year so

1450

00:58:04,250 --> 00:58:02,339

we can chat about some substance in a

1451

00:58:06,049 --> 00:58:04,260

year I look forward to it and it will

1452

00:58:07,790 --> 00:58:06,059

have to get you back on to discuss that

1453

00:58:09,230 --> 00:58:07,800

as and when it happens to everyone in

1454

00:58:10,970 --> 00:58:09,240

the live chat thank you so much for all

1455

00:58:13,430 --> 00:58:10,980

your questions I hope you enjoyed this

1456

00:58:15,349 --> 00:58:13,440

past hour I certainly did I will be back

1457

00:58:17,390 --> 00:58:15,359

live in just under two hours with

1458

00:58:19,370 --> 00:58:17,400

Alejandro Rojas so come and join me for