

1
00:00:19,489 --> 00:00:24,469
can I call on someone in the new

2
00:00:21,449 --> 00:00:24,470
fighters please

3
00:00:27,199 --> 00:00:35,698
yes okay so last night an hour right

4
00:00:32,159 --> 00:00:38,159
blacklight power and its president mills

5
00:00:35,698 --> 00:00:41,189
have developed this concept of a Hydra

6
00:00:38,159 --> 00:00:44,250
know which is a hydrogen atom that spins

7
00:00:41,189 --> 00:00:47,070
down to a lower orbital and we're often

8
00:00:44,250 --> 00:00:49,198
connected with black light and the

9
00:00:47,070 --> 00:00:51,988
question is is our process the same as

10
00:00:49,198 --> 00:00:54,539
black lights the answer is not as far as

11
00:00:51,988 --> 00:00:56,459
we as we're concerned you know there may

12
00:00:54,539 --> 00:00:58,588
end up being some fundamental physics

13
00:00:56,460 --> 00:01:00,058
that connects us but right now we're

14
00:00:58,588 --> 00:01:01,829
coming from two completely different

15
00:01:00,058 --> 00:01:06,899
places and we're not talking about

16
00:01:01,829 --> 00:01:10,368
hydrogen going to a lower orbital I'm

17
00:01:06,900 --> 00:01:10,368
going to exercise

18
00:01:23,920 --> 00:01:26,400
please

19
00:01:33,079 --> 00:01:39,569
the phrase again zero point energy

20
00:01:35,370 --> 00:01:44,040
extraction is that we never not be able

21
00:01:39,569 --> 00:01:45,750
to because the Zimmerman fluctuations

22
00:01:44,040 --> 00:01:48,600
are characteristic of our particular

23
00:01:45,750 --> 00:01:50,909
vacuum state and if it's possible to

24
00:01:48,599 --> 00:01:53,369
extract energy from them that implies

25
00:01:50,909 --> 00:01:56,099
that we're living in a false vacuum of

26
00:01:53,370 --> 00:01:58,680
there is some lot more energy truvativ

27
00:01:56,099 --> 00:02:01,500
in state that would be where the excess

28
00:01:58,680 --> 00:02:04,290
energy come from so we extracted move

29

00:02:01,500 --> 00:02:18,000
triggered a class will be true vacuum

30
00:02:04,290 --> 00:02:20,730
which would examine the station up so so

31
00:02:18,000 --> 00:02:22,979
if you're right we'll have sort of

32
00:02:20,729 --> 00:02:26,449
turned it back on if you're right we'll

33
00:02:22,979 --> 00:02:26,449
have a quick instant in which we know

34
00:02:27,889 --> 00:02:39,689
just want to pass okay so uh so is mine

35
00:02:35,099 --> 00:02:42,180
off I believe minds off okay so as I

36
00:02:39,689 --> 00:02:46,020
said if we know if you're right we'll

37
00:02:42,180 --> 00:02:48,390
know for a short instance and more

38
00:02:46,020 --> 00:02:50,640
generally it's it's a question of what

39
00:02:48,389 --> 00:02:52,949
is vacuum energy and nobody really knows

40
00:02:50,639 --> 00:02:55,738
nobody really knows what this zero point

41
00:02:52,949 --> 00:02:58,589
energy is the stochastic electrodynamic

42
00:02:55,739 --> 00:03:00,750
view is a more physical view than the

43
00:02:58,590 --> 00:03:04,050

uncertainty quantum mechanical view as

44

00:03:00,750 --> 00:03:06,709

you well know in the end we've got a lot

45

00:03:04,050 --> 00:03:06,709

to learn still

46

00:03:13,969 --> 00:03:19,409

to determine if the material that the

47

00:03:17,430 --> 00:03:21,390

plates are made of will affect the

48

00:03:19,409 --> 00:03:23,639

differential between the inside and

49

00:03:21,389 --> 00:03:26,369

outside so that perhaps certain

50

00:03:23,639 --> 00:03:28,559

materials of molecular structure or

51

00:03:26,370 --> 00:03:32,129

metal different metals might create a

52

00:03:28,560 --> 00:03:35,400

greater differential yes so the question

53

00:03:32,129 --> 00:03:38,669

is is the nature of the Casimir cavity

54

00:03:35,400 --> 00:03:42,629

plates how does it affect the Casimir

55

00:03:38,669 --> 00:03:44,099

force and these properties that I'm

56

00:03:42,629 --> 00:03:45,629

talking about the answer is yes it

57

00:03:44,099 --> 00:03:47,789

depends quite a lot on the Casimir

58
00:03:45,629 --> 00:03:50,159
cavity plates there's been a fair bit of

59
00:03:47,789 --> 00:03:52,379
work on it and in fact recently one

60
00:03:50,159 --> 00:03:54,329
booth has shown that you can get a

61
00:03:52,379 --> 00:03:56,519
repulsive force as well as an attractive

62
00:03:54,330 --> 00:03:59,969
force by changing the conditions of the

63
00:03:56,520 --> 00:04:01,860
Casimir cavity there there's this is

64
00:03:59,969 --> 00:04:03,870
really a new field there's a lot that

65
00:04:01,860 --> 00:04:05,850
needs to go on my student who's working

66
00:04:03,870 --> 00:04:07,379
on this is going off to a conference

67
00:04:05,849 --> 00:04:09,539
specifically on the issue that you're

68
00:04:07,379 --> 00:04:11,609
talking about looking at the Casimir

69
00:04:09,539 --> 00:04:13,859
cavity plates and finding out what how

70
00:04:11,610 --> 00:04:18,750
their characteristics affect what's

71
00:04:13,860 --> 00:04:23,919
inside and we don't know yet oh yeah

72
00:04:18,750 --> 00:04:26,779
with the video here and we're

73
00:04:23,918 --> 00:04:31,948
how are you coming about the design

74
00:04:26,779 --> 00:04:35,758
so we had a DARPA contract a fairly

75
00:04:31,949 --> 00:04:38,280
large contract to look at this and we

76
00:04:35,759 --> 00:04:40,650
spent a year building casimir cavities

77
00:04:38,279 --> 00:04:43,829
and testing them and so on in the end of

78
00:04:40,649 --> 00:04:47,638
it we had a few glimmers of hope that

79
00:04:43,829 --> 00:04:49,948
maybe this is working but in retrospect

80
00:04:47,639 --> 00:04:51,360
I think that the approach we took to

81
00:04:49,949 --> 00:04:52,680
making casimir cavities which there

82
00:04:51,360 --> 00:04:54,538
isn't time for me to go into right now

83
00:04:52,680 --> 00:04:57,180
was not reliable and we weren't getting

84
00:04:54,538 --> 00:04:59,908
good spacing we did see these energy

85
00:04:57,180 --> 00:05:01,740
bursts that people have talked about but

86

00:04:59,908 --> 00:05:04,709
there are multiple ways to interpret it

87
00:05:01,740 --> 00:05:07,620
is it is it a zero-point energy force or

88
00:05:04,709 --> 00:05:09,688
is it perhaps some sort of sparking or

89
00:05:07,620 --> 00:05:11,069
something else that's being induced so

90
00:05:09,689 --> 00:05:13,199
we now have a completely different

91
00:05:11,069 --> 00:05:15,778
method for making casimir cavities we've

92
00:05:13,199 --> 00:05:17,550
got this stainless steel chamber very

93
00:05:15,778 --> 00:05:19,649
well controlled for doing the testing

94
00:05:17,550 --> 00:05:21,960
and we'll find out over the next year

95
00:05:19,649 --> 00:05:24,959
it's not an easy experiment to do

96
00:05:21,959 --> 00:05:27,739
thoroughly reliably I'm afraid we're out

97
00:05:24,959 --> 00:05:27,739
of time for questions