



1
00:00:00,000 --> 00:00:32,460

l
2
00:00:36,960 --> 00:00:34,800
sometimes an astronomy it's not what you

3
00:00:39,990 --> 00:00:36,970
see but what you don't see that says the

4
00:00:42,360 --> 00:00:40,000
most that may be the case with 47 to

5
00:00:44,970 --> 00:00:42,370
Canaan a densely packed star cluster in

6
00:00:47,610 --> 00:00:44,980
the southern hemisphere astronomer Ron

7
00:00:50,160 --> 00:00:47,620
gilliland surveyed 47 tuck looking for a

8
00:00:51,990 --> 00:00:50,170
certain class of planets so-called hot

9
00:00:53,820 --> 00:00:52,000
Jupiters because they're roughly the

10
00:00:56,160 --> 00:00:53,830
same size as Jupiter but live in very

11
00:00:58,830 --> 00:00:56,170
tight orbits around their stars and are

12
00:01:00,300 --> 00:00:58,840
common in our part of the galaxy the

13
00:01:03,090 --> 00:01:00,310

eight-day Hubble survey turned up a

14

00:01:06,630 --> 00:01:03,100

surprise and 35,000 star surveyed no

15

00:01:08,370 --> 00:01:06,640

planets none Gilliland's team fine-tuned

16

00:01:10,020 --> 00:01:08,380

Hubble so that it could see the slide

17

00:01:12,090 --> 00:01:10,030

dimming of stars that happens when a

18

00:01:13,980 --> 00:01:12,100

jupiter-sized planet passes between them

19

00:01:16,080 --> 00:01:13,990

and the earth in fact the search

20

00:01:17,850 --> 00:01:16,090

technique was so sensitive that Hubble

21

00:01:20,570 --> 00:01:17,860

did pick up the variations in several

22

00:01:22,890 --> 00:01:20,580

binary star pairs but still no planets

23

00:01:25,170 --> 00:01:22,900

47 Chuck is very different from our

24

00:01:27,330 --> 00:01:25,180

local neighborhood stars are much closer

25

00:01:29,790 --> 00:01:27,340

together and they lack the heavy metals

26

00:01:31,260 --> 00:01:29,800

common in our area this result doesn't

27

00:01:33,570 --> 00:01:31,270

rule out the presence of other planets

28

00:01:35,490 --> 00:01:33,580

but the zero score may have a lot to say

29

00:01:38,760 --> 00:01:35,500

about some of astronomy's biggest

30

00:01:42,990 --> 00:01:38,770

questions I think that's telling us that

31

00:01:46,560 --> 00:01:43,000

it's probably the case that stars born

32

00:01:49,260 --> 00:01:46,570

into this environment very crowded low

33

00:01:52,469 --> 00:01:49,270

metallicity are not likely not as likely

34

00:01:54,780 --> 00:01:52,479

to have planets as those in the local

35

00:01:57,210 --> 00:01:54,790

environment astronomers need more data

36

00:01:59,399 --> 00:01:57,220

from 47 to County to determine whether

37

00:02:02,190 --> 00:01:59,409

the clusters lack of metals or its tidal

38

00:04:45,119 --> 00:02:02,200

forces or some other unknown force keeps

39

00:04:52,919 --> 00:04:48,269

I think that's telling us that it's

40

00:04:55,859 --> 00:04:52,929

probably the case that stars born into

41

00:04:58,559 --> 00:04:55,869

this environment very crowded low

42

00:05:01,769 --> 00:04:58,569

metallicity are not likely not as likely