
CREDIT: PETE MARENFELD, NOAO

1
00:00:09,530 --> 00:00:06,320
we want to find earth-like planets

2
00:00:11,720 --> 00:00:09,540
around sun-like stars because that's our

3
00:00:14,959 --> 00:00:11,730
best chance of finding a world with life

4
00:00:16,550 --> 00:00:14,969
on it today's the day that truck

5
00:00:18,470 --> 00:00:16,560
carrying the new instrument has arrived

6
00:00:20,120 --> 00:00:18,480
over the next couple days we'll start

7
00:00:21,920 --> 00:00:20,130
integrating the whole system together

8
00:00:23,720 --> 00:00:21,930
but the first step is to actually get

9
00:00:26,029 --> 00:00:23,730
here and today the instrument got here

10
00:00:28,580 --> 00:00:26,039
the instrument is a radial velocity

11
00:00:31,999 --> 00:00:28,590
spectrometer it measures to very high

12
00:00:34,340 --> 00:00:32,009
accuracy the wobble of a star as a

13
00:00:37,190 --> 00:00:34,350

planet goes around we are trying to do

14
00:00:40,130 --> 00:00:37,200
this the level of sensitivity more than

15
00:00:41,450 --> 00:00:40,140
anything that exists at the moment we're

16
00:00:44,119 --> 00:00:41,460
really gunning for is one of the most

17
00:00:45,889 --> 00:00:44,129
precise measurements of a frequency in

18
00:00:48,020 --> 00:00:45,899
astronomy and I'm hoping we can get down

19
00:00:49,880 --> 00:00:48,030
to the point where we're really we're

20
00:00:51,979 --> 00:00:49,890
really probing the limits of the star

21
00:00:53,720 --> 00:00:51,989
and nothing else the idea with new it is

22
00:00:55,700 --> 00:00:53,730
really developed something that is so

23
00:00:57,979 --> 00:00:55,710
stable that you're purely dominated by

24
00:01:00,709 --> 00:00:57,989
its Dale rational physics not only will

25
00:01:03,470 --> 00:01:00,719
it detect planets and and measure masses

26
00:01:05,960 --> 00:01:03,480
of known planets but you can try for

27
00:01:08,780 --> 00:01:05,970
direct detection of planetary photons so

28
00:01:11,600 --> 00:01:08,790
that you can try to disentangle the very

29
00:01:13,760 --> 00:01:11,610
small reflected light signature from the

30
00:01:15,830 --> 00:01:13,770
planet itself instruments like nuit

31
00:01:18,380 --> 00:01:15,840
present the first capability for being

32
00:01:20,390 --> 00:01:18,390
able to do it one of the things NASA

33
00:01:22,280 --> 00:01:20,400
wanted was an instrument that could

34
00:01:26,020 --> 00:01:22,290
actually help the community follow up

35
00:01:30,550 --> 00:01:27,789
[Music]

36
00:01:32,709 --> 00:01:30,560
I think it'll be a very valuable

37
00:01:34,389 --> 00:01:32,719
resource for confirming test planets so

38
00:01:35,679 --> 00:01:34,399

test provides the one half and knew it I

39
00:01:37,060 --> 00:01:35,689
think will do a wonderful job providing

40
00:01:37,660 --> 00:01:37,070
the masses for a lot of these converted

41
00:01:42,249 --> 00:01:37,670
planets

42
00:01:45,309 --> 00:01:42,259
another goal for annuities to identify

43
00:01:48,120 --> 00:01:45,319
potential targets for JWST because the

44
00:01:50,859 --> 00:01:48,130
aw steve will open the doors to

45
00:01:54,219 --> 00:01:50,869
characterizing these planets by actually

46
00:01:56,709 --> 00:01:54,229
looking for atmospheres and images and

47
00:01:59,169 --> 00:01:56,719
so it's very important that you find the