



1
00:00:24,590 --> 00:00:04,120

[music]

2
00:00:24,610 --> 00:00:28,660

throughout the sky that is shining down on even the night

3
00:00:28,680 --> 00:00:32,700

side of the Moon. You get diffuse lighting from all around the sky,

4
00:00:32,720 --> 00:00:36,730

and we're looking at the reflection from that source of light.

5
00:00:36,750 --> 00:00:40,740

LAMP stands for Lyman-Alpha

6
00:00:40,760 --> 00:00:44,810

Mapping Project. It's an experiment that looks in the ultraviolet

7
00:00:44,830 --> 00:00:48,860

--at the reflected light from the Moon's surface to determine

8
00:00:48,880 --> 00:00:52,890

composition and whether frost is there.

9
00:00:52,910 --> 00:00:56,980

Kurt Retherford: So LAMP is neat because we're gonna look at the lunar nightside as well

10
00:00:57,000 --> 00:01:01,080

as the lunar dayside. We're sensitive enough to look at reflected starlight from the surface

11
00:01:01,100 --> 00:01:05,150

of the Moon, and also the specific wavelength from

12
00:01:05,170 --> 00:01:09,210

hydrogen atoms that are sort of shining throughout the solar system.

13
00:01:09,230 --> 00:01:13,270

[silence]

14

00:01:13,290 --> 00:01:17,300

Dana Hurley: A spectrograph is a type of instrument that breaks up light into

15

00:01:17,320 --> 00:01:21,320

its rainbow, so what LAMP does is it breaks up

16

00:01:21,340 --> 00:01:25,460

the ultraviolet part of the rainbow up into the different

17

00:01:25,480 --> 00:01:29,590

ultraviolet colors--and it's telling us about

18

00:01:29,610 --> 00:01:33,730

what the Moon is made out of. So LAMP is going to

19

00:01:33,750 --> 00:01:37,840

see some things that we haven't seen before because we haven't

20

00:01:37,860 --> 00:01:41,930

extensively studied this part of the spectrum on the Moon.

21

00:01:41,950 --> 00:01:46,020

Randy Gladstone: LAMP is able to see in the dark because because at ultraviolet

22

00:01:46,040 --> 00:01:50,100

wavelengths--which are more energetic photons than we look at

23

00:01:50,120 --> 00:01:54,170

with our eyes--there's this Lyman-Alpha glow that shines

24

00:01:54,190 --> 00:01:58,210

on it from all over the place. Kurt Retherford: An instrument quite like

25

00:01:58,230 --> 00:02:02,240

ours has never been to the Moon, and it's a new generation of instruments

26

00:02:02,260 --> 00:02:06,270

and we're gonna do a bang-up job of measuring the ultraviolet light coming from the Moon.

27

00:02:14,400 --> 00:02:10,280

[music]

28

00:02:14,420 --> 00:02:18,480

[silence]

29

00:02:18,500 --> 00:02:22,580

[beeping]

30

00:02:22,600 --> 00:02:26,660

[beeping, silence]