



1

00:00:00,909 --> 00:00:05,180

"Here's some of the stories trending This Week at NASA!"

2

00:00:05,180 --> 00:00:11,019

On Jan. 6, Expedition 50 Commander Shane Kimbrough and Flight Engineer Peggy Whitson of NASA

3

00:00:11,019 --> 00:00:15,929

conducted the first of two planned spacewalks outside the International Space Station to

4

00:00:15,929 --> 00:00:18,230

upgrade the station's power system.

5

00:00:18,230 --> 00:00:22,849

Kimbrough and Whitson began installation of adapter plates and completing electrical connections

6

00:00:22,849 --> 00:00:27,279

for six new lithium-ion batteries, which arrived in December.

7

00:00:27,279 --> 00:00:31,619

Kimbrough will venture outside the station again on Jan. 13 with Flight Engineer Thomas

8

00:00:31,619 --> 00:00:36,970

Pesquet of ESA (European Space Agency) to continue and complete the upgrade.

9

00:00:36,970 --> 00:00:42,610

On Jan. 4, NASA announced the selection of two missions to explore previously unexplored

10

00:00:42,610 --> 00:00:43,640

asteroids.

11

00:00:43,640 --> 00:00:48,629

The first mission, called Lucy, will study asteroids, known as Trojan asteroids, trapped

12

00:00:48,629 --> 00:00:49,760

by Jupiter's gravity.

13

00:00:49,760 --> 00:00:55,489

The Psyche mission will explore a very large and rare object in the solar system's asteroid

14

00:00:55,489 --> 00:01:01,850

belt that's made of metal, and scientists believe might be the exposed core of a planet

15

00:01:01,850 --> 00:01:06,520

that lost its rocky outer layers from a series of violent collisions.

16

00:01:06,520 --> 00:01:11,130

Lucy is targeted for launch in 2021 and Psyche in 2023.

17

00:01:11,130 --> 00:01:16,410

Both missions have the potential to open new windows on one of the earliest eras in the

18

00:01:16,410 --> 00:01:21,000

history of our solar system – a time less than 10 million years after the birth of our

19

00:01:21,000 --> 00:01:23,090

sun.

20

00:01:23,090 --> 00:01:29,510

NASA Astrophysics news discussed Jan. 3 through 7 at the 229th meeting of the American Astronomical

21

00:01:29,510 --> 00:01:35,440

Society in Grapevine, Texas included the agency's selection of a science mission to explore,

22  
00:01:35,440 --> 00:01:40,500  
for the first time, the hidden details of  
some of the most extreme and exotic astronomical

23  
00:01:40,500 --> 00:01:46,810  
objects, such as stellar and supermassive  
black holes, neutron stars and pulsars.

24  
00:01:46,810 --> 00:01:51,750  
The Imaging X-ray Polarimetry Explorer (IXPE)  
mission, targeted for launch in 2020, will

25  
00:01:51,750 --> 00:01:57,200  
fly instruments capable of helping astronomers  
answer fundamental questions about these phenomena

26  
00:01:57,200 --> 00:01:59,240  
and their extreme environments.

27  
00:01:59,240 --> 00:02:03,450  
The mission was selected out of 14 proposals.

28  
00:02:03,450 --> 00:02:09,330  
A new NASA animation is providing a more detailed  
view of how the moon's shadow will actually

29  
00:02:09,330 --> 00:02:14,950  
appear as it travels across the U.S. during  
the total solar eclipse on Aug. 21 of this

30  
00:02:14,950 --> 00:02:16,310  
year.

31  
00:02:16,310 --> 00:02:20,630  
Data visualizers have typically represented  
the moon's shadow as an oval.

32  
00:02:20,630 --> 00:02:25,970

But, with data about lunar terrain, land forms on Earth, and sun angle – provided by the

33  
00:02:25,970 --> 00:02:31,080  
Lunar Reconnaissance Orbiter and other NASA assets – this animation shows, for the first

34  
00:02:31,080 --> 00:02:34,810  
time, that the moon's shadow is better represented as a polygon.

35  
00:02:34,810 --> 00:02:41,780  
The animation shows the eclipse path with the greatest accuracy to date.

36  
00:02:41,780 --> 00:02:43,890  
And that's what's up this week @NASA ...