NASA'S SOLAR SCOPE IS READY FOR A BALLOON RIDE

1
00:00:01,050 --> 00:00:05,410
NASA and the Korea Astronomy and Space Science Institute are testing a new way to study the Sun.

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00:00:05,410 --> 00:00:09,540
From NASA’s Columbia Scientific Balloon Facility's field site in Fort Sumner, New Mexico

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00:00:09,540 --> 00:00:14,530
a football field-sized balloon is flying to the edge of Earth’s atmosphere.

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00:00:14,530 --> 00:00:21,490
It’s carrying an instrument called BITSE -- the Balloon-borne Investigation of Temperature and Speed of Electr

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00:00:21,490 --> 00:00:25,620
to demonstrate its readiness for future missions.

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00:00:25,620 --> 00:00:29,470
BITSE is a coronagraph that blocks the Sun’s bright disk

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00:00:29,470 --> 00:00:34,350
to reveal and measure the Sun’s tenuous atmosphere, the corona.

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00:00:34,350 --> 00:00:39,070
While standard coronagraphs measure the corona’s density,

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00:00:39,070 --> 00:00:43,940
BITSE also measures the temperature and speed of electrons in the corona.

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00:00:43,940 --> 00:00:48,590
These three measurements are key for understanding the source of the solar wind,

11
00:00:48,590 --> 00:00:52,550
the Sun’s constant stream of charged particles.

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00:00:52,550 --> 00:00:56,940
Understanding how the solar wind is formed can help improve forecasts of solar eruptions,

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00:00:56,940 --> 00:01:01,930

which, if directed at Earth, can affect our GPS signals and satellites in space.

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00:01:01,930 --> 00:01:07,080
Key parts of this instrument were first tested during the 2017 total solar eclipse.

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00:01:07,080 --> 00:01:12,090
On the balloon, BITSE will fly 22 miles above the ground for at least 6 hours,

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00:01:12,090 --> 00:01:18,420
gathering observations and providing test data for 150 times longer than it could during the few minutes of an e

17
00:01:18,420 --> 00:01:23,050
Balloon platforms are a low-cost way to conduct science investigations,

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00:01:23,050 --> 00:01:27,040
train the next generation of scientists and engineers,