



Astronomers Record Universe's Most Violent Wind for First Time

Description

Scientists have measured a fast wind of gas from the galaxy M82. This galaxy makes stars much quicker than our own Milky Way. The wind moves faster than 3 million kilometres per hour. It stretches far into space.

The measurements come from the XRISM spacecraft. This is a mission by JAXA and NASA. A special tool on XRISM detected X-rays from hot iron in the centre of M82. The results were published on March 25 in the journal Nature. They answer an important question about M82.

M82 is a starburst galaxy. This means it creates many stars very quickly. Researchers want to know how the strong winds from this galaxy affect itself and the space around it. This helps them understand galaxies better.

The team used the Doppler effect to measure the wind speed. This effect happens when a light source moves towards or away from us. They found that hot iron gas is moving outwards. The gas is very hot, around 25 million degrees Celsius. It pushes the gas away just like wind on Earth.

The data shows that M82 sends out enough material to make seven new stars each year. But scientists do not know where some of this gas goes. They need more research to find the answer.

Comprehension Questions

Multiple Choice

1. What is the wind speed measured from the galaxy M82?

- Option: 1 million kilometres per hour
- Option: 3 million kilometres per hour
- Option: 5 million kilometres per hour
- Option: 10 million kilometres per hour

2. Which agencies are behind the XRISM spacecraft?

- Option: NASA and ESA
- Option: JAXA and NASA
- Option: NASA and Roscosmos
- Option: ESA and Roscosmos



3. What special tool on XRISM detected X-rays from M82?

- Option: Optical camera
- Option: Infrared sensor
- Option: X-ray detector
- Option: UV camera

4. When were the results of the measurements published?

- Option: March 5
- Option: March 15
- Option: March 25
- Option: April 1

5. What is the temperature of the hot iron gas in M82?

- Option: 10 million degrees Celsius
- Option: 15 million degrees Celsius
- Option: 20 million degrees Celsius
- Option: 25 million degrees Celsius

6. How many new stars can M82 create each year according to the data?

- Option: Five
- Option: Seven
- Option: Ten
- Option: Twelve

True-False

7. M82 is a normal galaxy that creates stars slowly.

8. The Doppler effect was used to measure the wind speed in M82.

9. The research from M82 has no relevance to understanding other galaxies.

10. Researchers fully understand where all the gas from M82 goes.

11. The wind from M82 helps researchers learn more about the galaxy.

12. The measurements were taken from the Milky Way galaxy.



Gap-Fill

13. The galaxy M82 creates stars much quicker than our own Milky Way and has a wind speed of _____.
14. The special tool on XRISM detected X-rays from hot iron in the _____ of M82.
15. The hot iron gas pushes gas away just like _____ on Earth.
16. M82 is classified as a _____ galaxy.
17. The data shows that M82 sends out enough material to create _____ new stars each year.
18. Researchers need more research to find answers about the wind from _____ galaxy.

Answer

Multiple Choice: 1. 3 million kilometres per hour 2. JAXA and NASA 3. X-ray detector 4. March 25 5. 25 million degrees Celsius 6. Seven

True-False: 7. False 8. True 9. False 10. False 11. True 12. False

Gap-Fill: 13. 3 million kilometres per hour 14. centre 15. wind 16. starburst 17. seven 18. M82

CATEGORY

1. Sci/Tech - LEVEL1

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Author

aimeeyoung99

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