New Survey Reveals Hundreds of Missing Black Hole Links

Description

A recent survey has discovered a large number of black holes hidden in dwarf galaxies in space. Astronomers found 2,444 active black holes, including 298 intermediate-mass black holes, which are important for understanding the cosmos. These black holes are between stellar-mass and supermassive black holes in size.

By using the Dark Energy Spectroscopic Instrument, scientists were able to study small galaxies closely and identify active black holes within them. These black holes release a lot of energy when they feed, making them easier to spot.

The discovery of these black holes challenges our current understanding of how galaxies and black holes evolve together. The findings may help answer questions about the formation of black holes and their connection to different types of galaxies.

This research, published in The Astrophysical Journal, provides valuable insights into the role of black holes in the universe and how they impact galaxy evolution.

Vocabulary List:

1. **Astronomers** /əˈstrɒn.ə.mərz/ (noun): Scientists who study celestial bodies and the universe.
2. **Intermediate-mass** /ˌɪn.təˈmiːd.i.ət mæs/ (adjective): Referring to black holes that are between stellar-mass and supermassive in size.
3. **Cosmos** /ˈkɒz.mɒs/ (noun): The universe seen as a well-ordered whole.
4. **Identifying** /aɪˈdɛn.tɪ.faɪ.ɪŋ/ (verb): Recognizing or establishing what something is.
5. **Insights** /ˈɪn.saɪts/ (noun): Understanding of the true nature of something.
6. **Evolution** /ˌɛv.əˈluː.ʃən/ (noun): The gradual development of something especially from a simple to a more complex form.

Comprehension Questions

Multiple Choice

1. How many active black holes were found in the recent survey?

Option: 1,234
Option: 2,444
Option: 3,678
Option: 4,567

2. What makes the identification of active black holes in dwarf galaxies easier?

Option: They emit visible light
Option: They release a lot of energy when they feed
Option: They are larger in size
Option: They are stationary

3. What type of black holes were found in the dwarf galaxies?

Option: Supermassive black holes
Option: Stellar-mass black holes
Option: Intermediate-mass black holes
Option: Micro black holes

4. Which instrument was used to study small galaxies and identify active black holes?

Option: Hubble Space Telescope
Option: Chandra X-ray Observatory
Option: Dark Energy Spectroscopic Instrument
Option: James Webb Space Telescope

5. What publication featured the research on the discovery of black holes in dwarf galaxies?

Option: Nature
Option: Science
Option: The Astrophysical Journal
Option: Monthly Notices of the Royal Astronomical Society

6. How do the discovered black holes challenge current understanding?

Option: They are smaller than expected
Option: Their behavior is unpredictable
Option: They are found in unexpected locations
Option: They impact galaxy evolution in unexpected ways

True-False

7. The discovery of black holes in dwarf galaxies is insignificant in understanding the cosmos.

8. The black holes found in the survey were mainly supermassive black holes.

9. The research on black holes challenges the connection between galaxies and black holes.

10. Astronomers were able to spot the black holes easily because of their size.

11. The energy released by the active black holes aided in their identification.

12. The research was published in a journal specializing in climate science.

Gap-Fill

13. Astronomers found _____ active black holes in the recent survey.

14. The intermediate-mass black holes discovered are between stellar-mass and _____ black holes in size.

15. The Dark Energy Spectroscopic Instrument was used to study small galaxies and identify active black holes within them, making the identification process easier due to the energy released when they _____.

16. The discovery of black holes in dwarf galaxies challenges our current understanding of how galaxies and black holes _____ together.

17. The findings of the research may help answer questions about the formation of black holes and their connection to different types of _____.

18. The research published in The Astrophysical Journal provides valuable insights into the role of black holes in the universe and how they impact galaxy _____.

Answer

Multiple Choice: 1. 2,444 2. They release a lot of energy when they feed 3. Intermediate-mass black holes 4. Dark Energy Spectroscopic Instrument 5. The Astrophysical Journal 6. They impact galaxy evolution in unexpected ways

True-False: 7. False 8. False 9. True 10. False 11. True 12. False
Gap-Fill: 13. 2,444 14. supermassive 15. feed 16. evolve 17. galaxies 18. evolution

CATEGORY

1. Health - LEVEL2

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