NASA’s IXPE and White Dwarf Systems

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- **The News:** NASA’s **Imaging X-ray Polarization Explorer (IXPE)** has probed the internal structure of **EX Hydrae**, a white dwarf binary system, for the first time. It revealed the height of "accreting columns" of gas to be nearly 2,000 miles.
- **Background Data:**
- **White Dwarf:** The dense core left after a star like our Sun exhausts its nuclear fuel. They are roughly the size of Earth but have the mass of the Sun.
- **Binary System:** A system where two stars orbit each other. In this case, the white dwarf is "feeding" on gas from a companion star.
- **IXPE Mission:** A joint mission between NASA and the Italian Space Agency. Unlike regular telescopes that see light intensity, IXPE measures **polarization**—the direction in which X-ray waves oscillate—to map magnetic fields and extreme gravity environments.
- Understanding "Intermediate Polars" (white dwarfs with moderate magnetic fields) and the role of X-ray astronomy in studying high-energy physics.

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