

NASA's Fermi Hunts for Gravitational Waves From Monster Black Holes

The universe is a chaotic sea of gravitational waves. Astronomers think waves from orbiting pairs of supermassive black holes in distant galaxies are light-years long and are trying to detect them.

An international team of scientists examined over a decade of Fermi data collected from pulsars. They looked for slight variations in the arrival time of gamma rays from these pulsars, changes which could have been caused by the light passing through gravitational waves on the way to Earth.

While no waves were detected, the analysis shows that, with more observations, these waves may be within Fermi's reach.

Radio astronomers have conducted similar searches for decades, and their observations are the most sensitive to these gravitational waves. But interstellar effects complicate the analysis of radio data. Gamma rays don't suffer from these complications, providing both a complementary probe and an independent confirmation of the radio results.

The results of the study were published online by the journal Science.

