

New gravitational wave data analysis now underway

September 21 2017



Before the Merge: Spiraling Black Holes. This artist's conception shows two merging black holes similar to those detected by LIGO. The black holes—which will ultimately spiral together into one larger black hole—are shown orbiting one another in a plane. They are spinning in a non-aligned fashion, which means they have different orientations relative to the overall orbital motion of the pair. There is a hint of this phenomenon found by LIGO in at least one black hole of the GW170104 black-hole system. Credit: LIGO/Caltech/MIT/Sonoma State (Aurore Simonnet)

Penn State LIGO physicists are members of the LIGO-Virgo

collaboration to detect and characterize gravitational waves. The collaboration now is completing a very exciting Second Observing Run that is drawing to a close on August 25, 2017.

The Virgo and LIGO Scientific Collaborations have been searching for gravitational-wave signals since November 30, 2016. In the second Advanced Detector Observing Run 'O2,' both LIGO and Virgo instruments have been operating together since August 1, 2017.

The collaboration has issued the following statement: "Some promising gravitational-wave candidates have been identified by both LIGO and Virgo during our preliminary analysis, and we have shared what we currently know with observing partners using telescopes, gamma-ray detectors, and [neutrino detectors](#). We are working hard to assure that the candidates are valid gravitational-wave events, and it will require time to establish the level of confidence needed to bring any results to the scientific community and the greater public. We will let you know when we have information ready to share."

Provided by Pennsylvania State University

Citation: New gravitational wave data analysis now underway (2017, September 21) retrieved 9 April 2024 from <https://phys.org/news/2017-09-gravitational-analysis-underway.html>

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