

Our Night Sky in April 2016

You might see Mercury after sunset in the middle of the month, setting in the North west; however, Jupiter will be very prominent during the night, being due south about 9 pm. Mars and Saturn will be rising in the East about midnight, and will become increasingly obvious in the night sky as the month progresses. Venus is too close to the sunrise to be readily visible.

Scientists have detected gravitational waves for the first time -- ripples in spacetime that confirm Einstein's theories and allow scientists to observe the cataclysmic events in the Universe which cause these phenomenally faint disturbances in spacetime. We tend to regard gravity as something quite strong, especially when we stand on the weighing scales! However, gravity is the weakest of the forces which is why the detection of gravitational waves has had to wait for the extraordinarily sensitive detectors that have been operating over the past years in the USA

The initial detection of so-called gravitational waves occurred in September when a pair of black holes, each about 30 times more massive than the sun, spiraled in toward each other and then merged into a new, larger black hole more than 1.3 billion light years away.

In a flash, the crash released the equivalent of 50 times the energy of all the stars in the universe, powerful enough to ever-so-slightly jiggle the L-shaped, 2.5 mile-long laser beams on Earth that comprise the heart of the Laser Interferometer Gravitational-Wave Observatory, or LIGO.

LIGO observatories in Louisiana and Washington had just been upgraded when the detection was made. Scientists spent months verifying the gravitational waves' footprint, which changed the length of the laser light arms an amount 10,000 times smaller than the diameter of a proton. Meanwhile, LIGO continued to monitor for other space-shaking cosmic events.

"Before this, we didn't even know that black holes existed in pairs", the LIGO director at the California Institute of Technology, told the House Science Committee last week.

And the Massachusetts Institute of Technology physicist David Shoemaker declared that .it is the start of a new astronomy, since it opens up another window into our fascinating Universe.

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