SciTech

New telescope to unravel mystery behind Big Bang

An underground telescope designed to detect gravitational waves created by violent events in space could enable scientists to catch a glimpse of the dawn of the universe

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London: A telescope buried half a mile underground could enable scientists to catch their first glimpse of the dawn of the universe. The new device is designed to detect gravitational waves, an elusive phenomena created by some of the most violent events in the universe such as black holes, neutron stars and the Big Bang.

Although never directly detected, these waves of gravity are thought to echo through the universe like ripples from a stone thrown into a pond and they could provide scientists with a new way of mapping the sky, reports the Telegraph.

The telescope, costing between 500 million pounds and one billion pounds, will be built inside a network of tunnels 12 miles long and buried up to half a mile underground to dampen any interference from vibrations on the surface.

The telescope, called the 'Einstein Telescope', could also reveal for the first time whether there were universes in existence before our own by looking for the echoes of previous Big Bangs similar to the one that created our own universe 13.7 billion years ago.


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Physicists claim the telescope will give them the first chance to actually see black holes, which until now have

only been detected indirectly because of the stars and debris orbiting them. The project is expected to rival the Large Hadron Collider, the 17-mile particle smasher on the French Swiss Border that was switched on in 2008, in its scale and ambition.

Highly precise lasers will be beamed along two six-mile-long vacuum chambers to detect minute changes in the distance between targets at either end caused by gravitational waves passing through the earth.

Said B S Sathyaprakash, an astrophysicist at Cardiff University and chair of the science working party for the Einstein Telescope, “There is huge potential to see the universe in a completely new way with gravitational waves.”Gravitational waves were first predicted by Albert Einstein in his theory of general relativity.

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