

Study of Gravitational Wave by LIGO : past, present and future

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“Sincere the prediction of the gravitation wave (GW) by Einstein 100 years go, scientists all over the world have been looking for the GW signal.

The first GW signal was detected by US-based LIGO GW detectors using laser interferometry on September 14, 2015. The source of the signal was a merger of two black holes at 1.3 billion light year away.

Another epoch making observation was done on August 17, 2017, by LIGO and European GW detector Virgo. The source of the signal was a merger of two neutron stars. Using the location information by the GW signal, world wide telescopes collaborated to study the event, using wide range of spectrums over many months of observation period. This was the start of the multi messenger astronomy.

After the first qualitative phase of detecting GW signals, now is a second phase to study signals more qualitatively. Over the coming decade, the sensitivity will be dramatically improved. Challenging projects to go further have started, trying to reach to the end of the universe.”

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