## **KMI Colloquium**

## **Gravitational Wave Astronomy**



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## Abstract:

The existence of the gravitational wave was predicted by A. Einstein in his general theory of relativity, but it has not yet been directly detected. If we detect gravitational waves, we can open a new window to the Universe, that is "gravitational wave astronomy", by observing the formation of a black hole, the beginning of the Universe, etc. Actually several km-class laser interferometric gravitational wave detectors have been built over the world to detect gravitational waves, including the Japanese detector, KAGRA. In this seminar, after a brief review of the gravitational wave and its detection method, the aimed science, the design of the detector, and the current status of KAGRA will be described in detail. Finally a possible project beyond KAGRA such as the Japanese space antenna DECIGO will be discussed.

