

U.S. trio wins physics Nobel for gravitational waves

Phenomenon was predicted by Einstein a century ago as part of his theory

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U.S. astrophysicists Rainer Weiss, Barry Barish and Kip Thorne were awarded the Nobel Physics Prize on Tuesday for the discovery of gravitational waves – a phenomenon that opens a door on the extreme Universe.

Predicted by Albert Einstein a century ago as part of his theory of general relativity, but only detected in 2015, gravitational waves are “ripples” in space-time, as the theoretical fabric of the cosmos is called.

They are caused by ultra-violent processes, such as colliding black holes or the collapse of stellar cores.

“Their discovery shook the world,” said Goran K. Hansson, the head of the Swedish Royal Academy of Sciences, which selects the Nobel recipients.

They made their discovery in September 2015 and



(From left to right) Rainer Weiss, Barry Barish and Kip Thorne. ■ AFP

announced it in February 2016, a historic achievement that culminated from decades of scientific research. And since then, they have clinched all the major astrophysics prizes to be had.

Mr. Thorne and Mr. Weiss co-created the Laser Interferometer Gravitational-wave Observatory (LIGO) at the prestigious California Institute of Technology, which has taken home 18 Nobels

since the prizes were first awarded in 1901. Mr. Barish then brought the project to completion.

1.3 bn light years away

The first-ever direct observation of gravitational waves was the result of an event some 1.3 billion light years away. “Although the signal was weak when it reached Earth, it is already promising a revolution in astrophysics.

Gravitational waves are an entirely new way of following the most violent events in space and testing the limits of our knowledge,” the Academy said.

Since 2015, the enigmatic ripples have been detected three more times: twice more by LIGO and once by the Virgo detector located at the European Gravitational Observatory in Cascina, Italy.