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Belle II's SuperKEKB reaches test operation stage, eight Indian institutions involved in project

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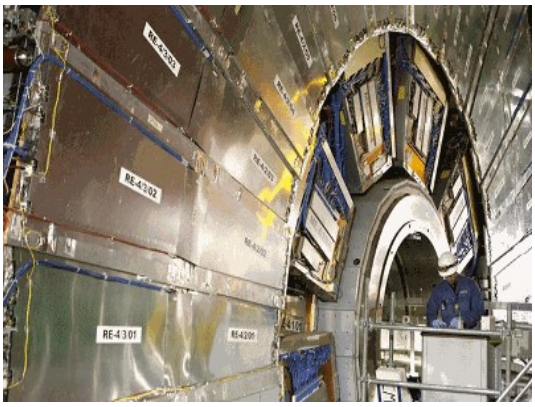

CHENNAI: After LIGO, scientists and students from eight Indian educational institutes including four IITs, have contributed to yet another international scientific collaboration - the Belle II experiment at the national particle physics laboratory of Japan: KEK Tsukuba.

Last week, the project achieved a significant milestone in its progress towards full operation scheduled to commence at the end of 2018.

According to a press release, the SuperKEKB electron-positron collider located at KEK laboratory achieved 'first turns' and reached test operation stage.

SuperKEKB is the first particle smasher to be built since the Large Hadron Collider (LHC) the world's largest and most powerful particle accelerator at CERN laboratory in Switzerland.

The release said that on February 10 this year, Super KEKB succeeded in circulating and storing a positron beam moving close to the speed of light through over a thousand magnets in a narrow tube around the three kilometre circumference of its main ring.

On February 26, it succeeded in circulating and storing a seven billion electron-volt energy electron beam in the opposite direction.

SuperKEKB, along with the Belle II detector, will provide yet another opportunity for scientists to explore beyond the widely accepted standard model of particle physics.

The Belle II detector was designed and built by more than 600 students, scientists and engineers from 23 countries in Asia, Europe and North America.

Jim Libby, Physics professor at IIT Madras, who is involved in the project, told TOI that four IITs (Bhubaneswar, Guwahati, Hyderabad, Madras), IISER Mohali, Panjab University , Punjab Agricultural University and Tata Institute of Fundamental Research (TIFR), Mumbai are associated with the project. Eight TIFR scientists are now in Japan to help build the detector.

"We understand only around 5% of our universe.Data from these experiments will give scientists a better idea of the building blocks of the universe," he said.