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## The Belle II imaging Time-of-Propagation (iTOP) Detector

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High precision flavor physics measurements are an essential complement to the direct searches for new physics at the LHC. Such measurements will be performed using the upgraded Belle II detector that will take data at the SuperKEKB accelerator. With 40x the luminosity of KEKB, the detector systems must operate efficiently at much higher rates than the original Belle detector. A central element of the upgrade is the barrel particle identification system. Belle II has built and installed an “imaging-Time-of-Propagation” (iTOP) detector. The iTOP uses quartz optics as Cherenkov radiators. The photons are transported down the quartz bars via total internally reflection with a spherical mirror at the forward end to reflect photons to the backward end where they are imaged onto an array of segmented Multi-Channel Plate Photo-Multiplier Tubes (MCP-PMTs). The system is readout using gigasample per second waveform sampling ASICs that provide precise photon timing. The combined timing and spatial distribution of the photons for each event are used to determine particle species. This presentation will provide an overview of the iTOP system.

### Registered

Yes

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