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## **Cryogenic developments for the Einstein Telescope using superfluid helium**

The Einstein Telescope (ET) is the European third-generation gravitational-wave observatory currently under development. It includes a low-frequency (LF) and a high-frequency laser interferometer. In comparison to existing detectors, sensitivity improvements of several orders of magnitude are foreseen. Cryogenic operation of ET-LF is imperative for exploiting the full scientific potential of ET, with mirrors operated at temperatures of 10 K to 20 K in order to reduce the thermal noise. We present our developments for a cryogenic infrastructure and a novel payload cooling concept for ET-LF based on the application of superfluid helium.

### **Speed Talks**

I am unable/unwilling to give a speedtalk.

**Primary authors:** BUSCH, Lennard (Karlsruhe Institute of Technology (KIT)); KOROVESHI, Xhesika (Karlsruhe Institute of Technology (KIT)); GROHMANN, Steffen (KIT)

**Presenters:** BUSCH, Lennard (Karlsruhe Institute of Technology (KIT)); KOROVESHI, Xhesika (Karlsruhe Institute of Technology (KIT))

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