



Contribution ID: 3

Type: **not specified**

The ALPS II Experiment and its TES Detector

Monday 30 September 2019 11:00 (45 minutes)

The Any Light Particle Search II (ALPS II) experiment at DESY will look for axion-like particles (ALPs) with low masses ($m < 10^{-4}$ eV). ALPS II is a purely laboratory-based experiment, where ALPs could be produced and detected employing the light-shining-through-wall (LSW) technique using infrared photons with a wavelength of 1064 nm. ALPS II utilizes the concept of resonant enhancement on the production and regeneration side to improve the sensitivity of traditional LSW-experiments. The experiment requires a detection system capable of observing infrared photons at extremely small rates of the order of $10^{-5} s^{-1}$. For this purpose a system based on a transition edge sensor (TES), i.e. a cryogenic calorimeter, which exploits the drastic dependence of a material's electrical resistance on the temperature in its transition region, is being developed. The talk will present the current status of ALPS II with special focus on the TES detection system.

Presenter: JANUSCHEK, F.

Session Classification: Day 1