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# Response of a Transition Edge Sensor to Single Photons of Different Wavelenghts

The Any Light Particle Search II (ALPS II) is a Light-Shining-through-a-Wall experiment at DESY, Hamburg probing the existence of Axions and Axion-Like Particles (ALPs), which are possible candidates for dark matter. In the ALPS II region of study, a rate of photons reconverting
from Axions/ALPs on the order of 10−5 cps is expected. This requires a detection system capable of measuring low-energy photons (1.165 eV) with high efficiency and a low dark count rate.

We investigate a tungsten Transition Edge Sensor (TES) system as a photon-counting detector that promises to meet these requirements.
Within this summer student project the student will participate in the characterization of the ALPS TES by testing its response to photons of different wavelength.

## Field

B3: Development of experimental particle physics equipment (hardware-oriented)

## DESY Place

Hamburg

## DESY Division

FH

## DESY Group

ALPS

## Special Qualifications:

Basic lab experience and programming skills (preferably python) are expected. Experience with optical setups/vacuum/cryogenic systems would be an asset.

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