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## **The Ophanim Detector: Data Flow Architecture and Power Supply of a spatially resolved Antihydrogen Detector**

*Thursday 5 December 2024 15:50 (25 minutes)*

The AEgIS experiment at CERN aims to measure the acceleration of cold antimatter in earth's gravity field by determining the vertical displacement of the beam. An important part of the experimental setup is a detector, that can determine the position of the antimatter particles. For this purpose, the Ophanim detector - a CMOS sensor with 3.85 billion pixels - is developed.

In order to transport Ophanim's large amounts of data, a pipeline with high bandwidth is necessary.

This presentation outlines, how the MIPI CSI-2 Protocol and USB SuperSpeed can be used to accomplish a fast and reliable data transfer.

Additionally, a fast and precise power supply is required to power the detector inside of the vacuum chamber. The discussion will explore how this is achieved using analog electronics.

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