

New Physics Search and Dump Calorimeter at LUXE



LUXE

Ivo Schulthess

Weekly LUXE Meeting

Deutsches Elektronen-Synchrotron DESY

2024 - KW8

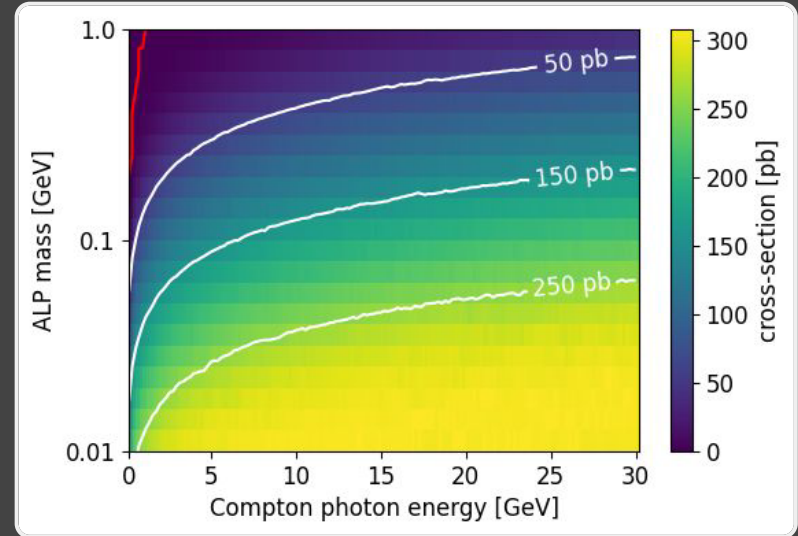
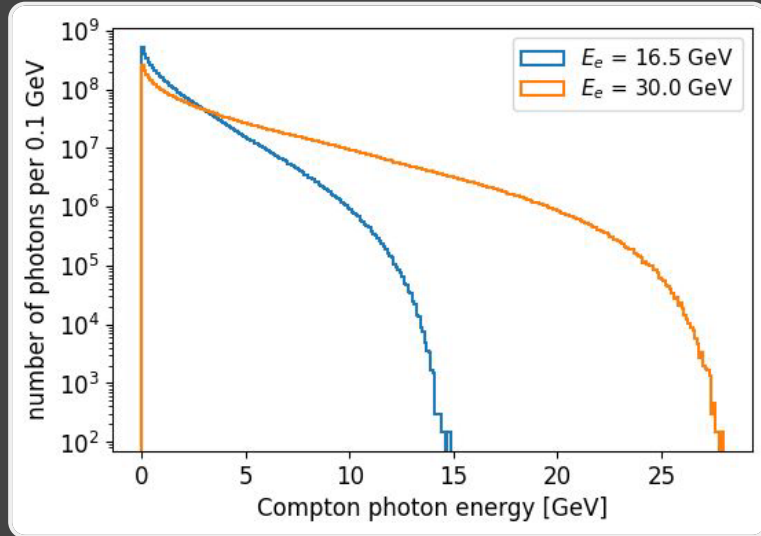
New Physics Search and Leakage Calorimeter

Progress and Status

- we will have **Fiona** from MIT working with us on NPOD during summer
- WIS/KIT are implementing the **magnetized dump** in Geant4
- extended the **NPOD physics case** to higher electron energies of 30 GeV
- **analyzing** dump calorimeter data from DESY-II and FLASHForward
- preparing for FLASHForward **beamtime** in March and upgrade of the setup

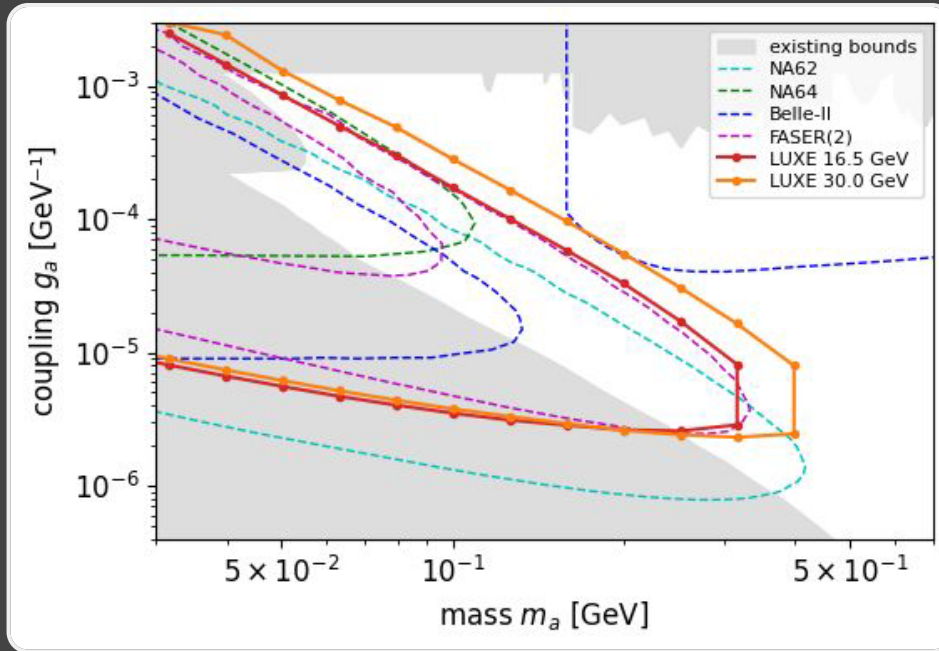
LUXE-NPOD

Extended Physics Case



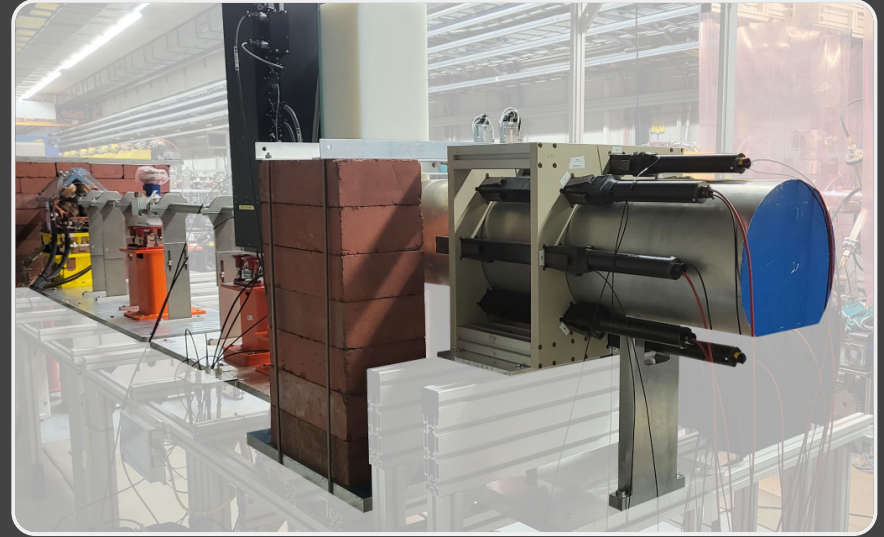
LUXE-NPOD

Extended Physics Case



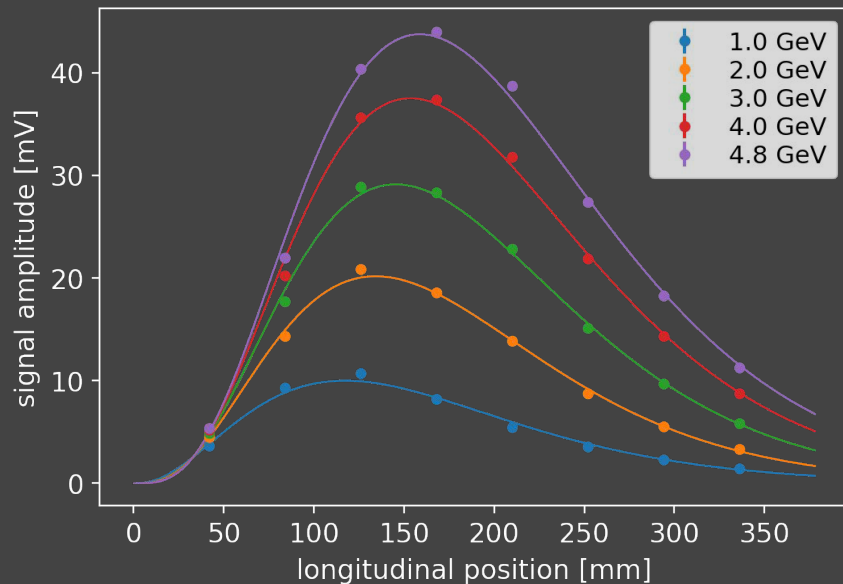
Dump Calorimeter

Setups at DESY-II and FLASHForward



Dump Calorimeter

DESY-II: Shower Distribution / Molière Radius

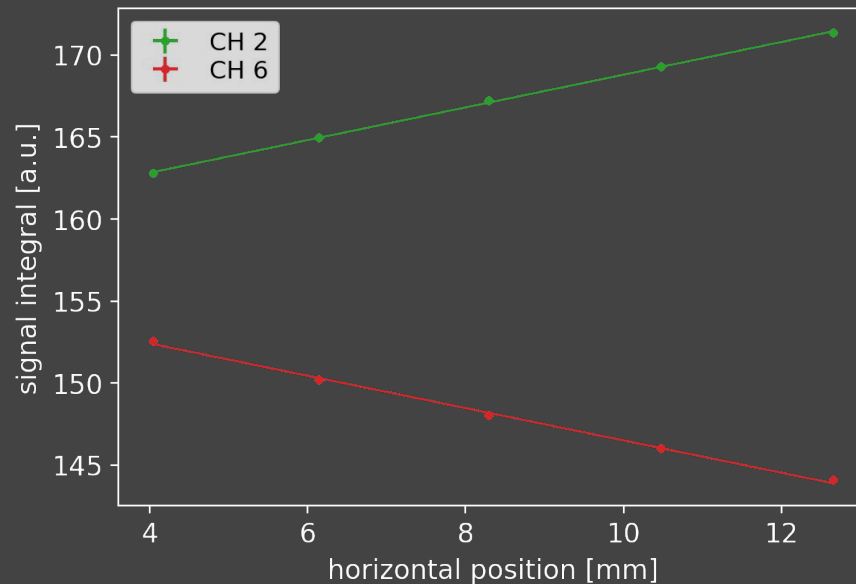
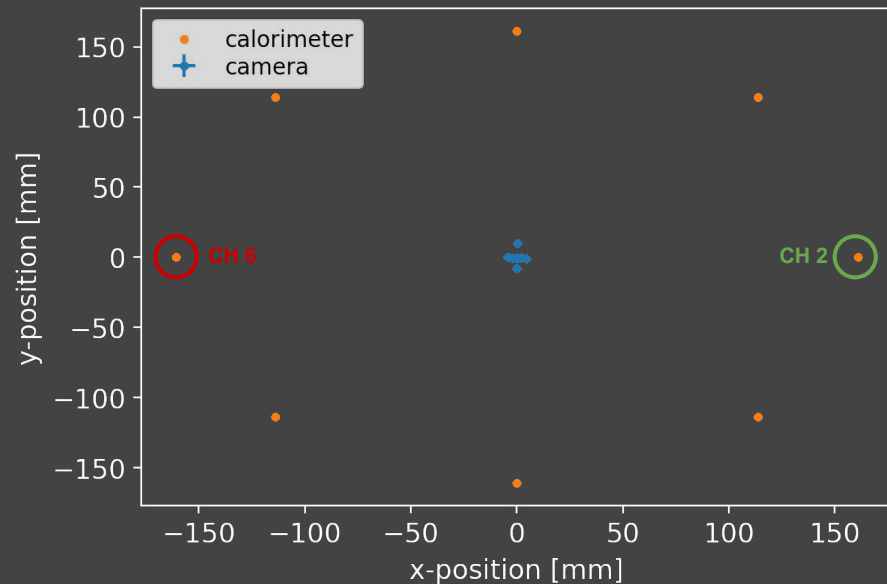


$$A = A_0 \cdot z^a \cdot e^{-b \cdot z}$$

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Dump Calorimeter

Bunch Position



Dump Calorimeter

Bunch Charge

