Contribution ID: **137** Type: **Poster**

P1.58: Temperature and vacuum related effects on X-rays hybrid sensor calibration

Monday, 26 June 2023 15:48 (1 minute)

The PIMEGA Series of high-resolution, Medipix-based pixel hybrid semiconductor detectors are extensively used at Sirius X-ray source of LNLS research facility, for imaging and data acquisition from X-rays driven experiments on material science. This contribution summarizes the results of the analysis performed on a dataset of images acquired at different sensor temperatures, under vacuum conditions,

with the aim to understand time-dependent effects which are observed during detector operation such as photon-counting efficiency variation and appearance of evolving spots. Qualitative and quantitative figures are provided, followed with the evaluation pertinent hypotheses which could explain such effects, as well specific procedures for calibration taking it into account.

The authors acknowledge funding from the Brazilian Ministry of Science, Technology, and Innovation.

Primary author: Dr ALVES JUNIOR, Antonio Augusto (LNLS - CNPEM)

Co-authors: PEREIRA, Alan Douglas; BATISTTON ANTONIO, Erick (LNLS - CNPEM); DIAS DE FREITAS, Gabriel Thomas; SIQUEIRA, Gustavo (LNLS - CNPEM); LANCINI, Isabella (LNLS - CNPEM); POLLI, Jean Marie; GIMENEZ FERNANDES, Matheus; VINCOLETTO, Pedro (LNLS - CNPEM); BACK CAMPANELLI, Raul

Presenter: Dr ALVES JUNIOR, Antonio Augusto (LNLS - CNPEM)

Session Classification: Poster (incl. coffee)