



Contribution ID: 19

Type: **not specified**

## Incoherent Diffraction Imaging with hard X-rays

*Wednesday 29 January 2025 09:30 (12 minutes)*

Incoherent Diffraction Imaging (IDI) with hard X-rays is a promising improvement in lensless imaging techniques, taking advantage of the partial coherence of scattered light to obtain structural insights at the nanoscale. Building on the foundations of Coherent Diffraction Imaging (CDI), IDI uses second-order intensity correlations to reconstruct high-resolution images while overcoming the obstacles posed by coherence limitations. This project focuses on creating an experimental campaign to test IDI with a synchrotron source at SOLEIL's Nanoscopium beamline. This study aims to improve imaging with partially incoherent X-rays by combining numerical simulations and an innovative experimental setup that includes a rotating diffuser and a resolution target. The research results show potential for more accessible, high-resolution imaging techniques for nanostructures, widening applications in material sciences, medicine and biology.

**Primary author:** FERNANDES, Matilde (IST)

**Presenter:** FERNANDES, Matilde (IST)