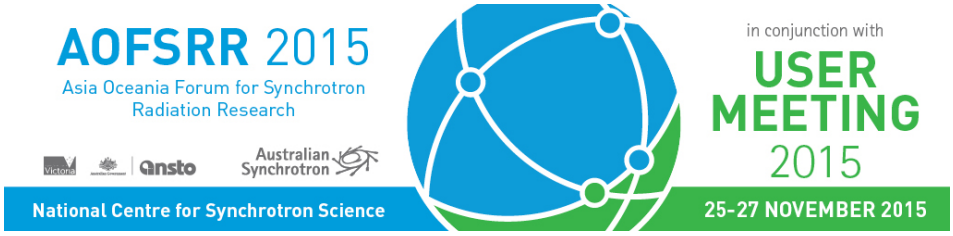

Contribution ID : **165** Type : **Poster**

Radiation damage in a micron-sized protein crystal studied via reciprocal space mapping and Bragg coherent diffractive imaging

Friday, 27 November 2015 13:30 (45)

For laboratory and synchrotron based X-ray sources, radiation damage has posed a significant barrier to obtaining high-resolution structural data from biological macromolecules. The problem is particularly acute for micron-sized crystals where the weaker signal often necessitates the use of higher intensity beams to obtain the relevant data. Here, we employ a combination of techniques, including Bragg coherent diffractive imaging to characterise the radiation induced damage in a micron-sized protein crystal over time using beam line 34-ID-C at the Advanced Photon Source. The approach we adopt here could help screen for potential protein crystal candidates for measurement at X-ray free election laser sources.

Keywords

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Session Classification : Poster Session 2

Track Classification : Imaging