第 6 回　物質科学談話会

日時：平成 30 年 11 月 9 日（金）　16:30～17:30

場所：ES 総合館 3 階 ES033 講義室

講師：GAIDA Nico Alexander（名古屋大学）

題目：Transparent nanoceramics consisting of birefringent crystals synthesized at the new Large Volume Press extreme conditions beamline at the Deutsches Elektronen-Synchrotron (DESY)

内容：　Since most of transparent materials, e.g., glasses or cubic single crystals, are fragile, there is a strong demand for mechanically durable transparent solids. Polycrystalline ceramics can fulfil this demand because their unique microstructure can enhance the physical properties. Most of transparent polycrystalline ceramics are restricted to cubic crystals and can, so far, not be produced in the same quality when composed of the more common crystals of low symmetry. The present study demonstrates the high-pressure high-temperature (high-*PT*) synthesis of a highly transparent polycrystalline nanoceramic mainly consisting of crystals with the lowest possible (triclinic) crystal symmetry. Experiments were performed at the new P61B extreme conditions beamline at the Deutsches Elektronen-Synchrotron (DESY). The Large Volume Press (LVP) newly installed at the P61B beamline is the first 6-rams-LVP operating at a synchrotron facility and enables *in situ* synchrotron X-ray diffraction (with an energy range of 30-200 keV) studies under extreme high-*PT* conditions using different compression geometries in the near-future.

問合先：丹羽　健

niwa@mp.pse.nagoya-u.ac.jp