Geodynamics Seminar

第323回ジオダイナミクスセミナー

Synthesis of high-quality sintered bodies of polycrystalline minerals at high pressure: Let's make poly-gems

Dr. Irifune Tetsuo (Professor & Director, GRC)

主催:愛媛大学地球深部ダイナミクス研究センター

日時:3/16(金)午後 4時30分~ 場所:総合研究棟 4F 会議室





Abstract

One of the targets of SOSEKI lab is to make new materials utilizing the advantage of larger sample volumes under better-controlled pressure and temperature in Kawai-type multianvil apparatus (KMA) relative to those available in competitive diamond anvil cell. Nano-polycrystalline diamond (NPD or HIME-diamond) is an example of such outcomes from SOSEKI lab, followed by some novel materials including nano-polycrystalline stishovite (NPS). Making high-quality consolidated polycrystalline samples of high-pressure phases are also important for precise measurements of their physical properties. I will briefly review some of such polycrystalline materials synthesized in the Ultrahigh Pressure and Materials Synthesis groups of GRC, and discuss basic principles and practical methods to make gem-quality polycrystalline minerals ("poly-gems") using state-of-the-art KMA technology.