



東京大学微細構造解析プラットフォーム 公開講演会

“Grain boundaries and dislocations in metal-oxide materials”

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Metal oxide materials exhibit a wide range of electronic, optical, chemical and magnetic properties and find diverse technological applications in areas such as electronics, energy generation, catalysis and medicine. Whether in the form of thin crystalline films, nanoparticles or bulk polycrystals extended defects such as grain boundaries and dislocations are ubiquitous in metal oxides. These defects often significantly perturb structural and electronic properties affecting functionality and performance for many applications. In recent work we have shown how first principles materials modelling can provide invaluable insights into the role of extended defects which are often challenging to unravel by experiment alone. In this talk, I will present a number of examples including grain boundaries and dislocations in the oxides MgO, TiO₂, Fe₃O₄ and HfO₂ with relevance to applications in electronics, photovoltaics, magnetism and spintronics.

Jun 6 (Tue), 2017 14:00~15:30

**Main meeting room at Institute of Engineering Innovation, UT
(工学部総合研究機構 9号館1階 大会議室)**

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