Contribution ID: **54** Type: **Oral**

# Research of Materials in Target Environment at European Spallation Source

*Monday, 4 June 2018 11:30 (20 minutes)*

The ESS Target Station consists mainly of proton beam intercepting systems and other components exposed to high intensity radiation. The functionalities of these systems degrade with accumulated radiation damage in the constituent materials. It is important to have a clear understanding of properties of irradiated materials in making the materials selections and the operations and maintenance plan of the facility. At the European Spallation Source (ESS), a number of research projects on irradiated materials are undergoing. The research program includes post irradiation examination (PIE) of tungsten as spallation material, PIE of aluminum alloys as proton beam window material, characterization of beryllium as reflector material, in-beam characterization of chromium doped alumina as luminescent coating material, chemical kinetics of selected catalyzers for ortho-to-para hydrogen conversion, and PIE of radiation resistant elastomer and lubricants. A number of irradiation campaign and PIE activities are in progress, in collaboration. In this presentation, current status of the materials research projects is reported. Furthermore, a prospect of future materials research in the target environments at ESS is presented.

**Primary author:** Dr LEE, Yong Joong (ESS)

**Presenter:** Dr LEE, Yong Joong (ESS)

**Session Classification:** Session 1-R&D to Support Concepts

**Track Classification:** 1-R&D to Support Concepts