Contribution ID: **454** Type: **Regular 15 minutes Oral Presentation**

Open Material Property Library With Native Simulation Tool Integrations (OpMaST)

Thursday 31 August 2017 12:15 (15 minutes)

Reliable material property data is crucial for trustworthy simulations in magnet design phase. The variety of tools scientist and engineers utilise for electromagnetic and mechanical design and quench, at least, is large. Centralised effort to distribute material data within communities, like superconductor accelerator magnet R&D community, will result in large time savings. We have started developing a database for storing all kind of material property data online. This includes, but is not limited to, anisotropic critical current surfaces for high temperature superconducting materials, electrical resistivities as a function of temperature, RRR and magnetic field, general fits for describing material behaviour etc. This database is easily accessible even with a mobile device and it has easy-to-use native integration tools for various programming languages, modelling frameworks and software. The reliability of the data can be assessed by stars given by users. With a large user base this defines the best data for various needs. This work introduces the database and is the reference document for citing the database when it is used.

Submitters Country

Finland

Authors: STENVALL, Antti Aleksis; VAN NUGTEREN, Jeroen; LAHTINEN, Valtteri (Tampere University of Technology); KIRBY, Glyn (CERN)

Presenter: STENVALL, Antti Aleksis

Session Classification: Thu-Mo-Or32

Track Classification: F6 - Joints between Superconductors