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High performance coated conductors wire for magnet applications

Tuesday, 29 August 2017 16:00 (15 minutes)

THEVA Pro-Line coated conductors based on ISD-MgO buffer layers and e-beam evaporation are available today in large length and critical current above 500 A/cm (77 K, s.f.) as it is necessary for magnet applications. An overview will be given on recent progress of the performance and length of these kind of coated conductors. The performance in magnetic fields at medium temperatures in the range of 30 K to 50 K used for generators and motors as well as 4.2 K will be discussed together with the angular behavior of the magnetic field performance. Mechanical and electrical performance of copper laminated as well as copper plated types of variable width will be shown. Finally, a reliable joining technique will be addressed that was successfully used in a series production of generator coils for the EcoSwing project where a 3.6 MW wind power generator will be developed.
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Submitters Country

Germany

Primary author: Dr BAUER, Markus (THEVA Dünnschichttechnik GmbH)

Presenter: Dr BAUER, Markus (THEVA Dünnschichttechnik GmbH)

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