

Recent advances in and outlook into second generation (2G) high-temperature superconductor tape technology

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From its laboratory scale beginnings, 2G High Temperature Superconductor (HTS) coated conductor (CC) tapes have evolved to readily available products, enabling a growing range of HTS applications. Most prominent among these is the use in high-field magnets: while 2G HTS are the best choice of material to use in high magnetic fields, the technological readiness until recently was not sufficient.

THEVA presents recent advances in the performance of HTS CC with artificial pinning centres: The latest high-field critical current (IC) measurements confirm the stabilization of the superconducting state up to extremely high magnetic fields. In addition, our tapes are mechanically and electrically stabilized and therefore robust enough both for the manufacturing processes as well as the severe conditions during operation of high-field magnets. Finally, a roadmap will be presented on capacity ramp-up to enable novel technologies requiring large amounts of high-quality HTS CC tape.

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Session Classification: Projects | Specifications & Roadmap

Track Classification: Experience with static fields | Science & Techniques