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Technical superconductors (HTS)

Thursday 23 November 2023 11:00 (1 hour)

After a short introduction aiming at reviewing the physical parameters of superconducting materials, families of the cuprates (REBCO, BSCCO 2212 and BSCCO 2223), MgB₂ and Iron Based Superconductors are described. Emphasis is put on their structure, on their physical properties, including vortex pinning characteristics, and on the manufacturing processes that enable production of wire and/or tape. Electrical properties of these superconducting materials and geometries of cables to date conceived for transferring high currents are also presented. Finally, benefits and potential future large-scale applications of High Temperature Superconductors are discussed.

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