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M3Or4A-04: [Invited] The thermal management of superconducting and aluminum conductors in motors, generators and cables for electric aircraft

Wednesday 21 May 2025 17:25 (20 minutes)

This talk will discuss the work on power density and efficiency potential for single and double aisle electric aircraft motors, generators and cables by Hyper Tech and Ohio State University. There are a few options on motors: ambient temperature, cryo (77-120K), and cryo 20-30K. Ambient temperature and cryo (77-120K) motors use aluminum conductors while cryo (20-30K) uses superconductors or high purity aluminum (HPAL). There is also the potential for cryo cables using MgB2 and HPAL. The talk will also discuss Hyper Tech's latest results for magnesium diboride (MgB2) and High Purity Aluminum (HPAL) conductors, cables and coils

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