

Rotating Machines Using High Temperature Superconductors Past, Present and Future

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Abstract—Currently extensive development effort is being undertaken around the world to develop compact lightweight motors possessing high efficiency for applications on airplanes and for windfarm generators. This activity is being driven by carbon reduction goals set by many governments. Motors for airplane applications are being developed using a wide variety of technologies for meeting the needs of selected aviation sectors. This talk discusses the benefits of superconducting machines and reviews machines built in the past, presently under construction and those planned. The future looks bright for the machines employing high temperature superconductors.

Keywords (Index Terms)—Superconductors, HTS, High-Temperature superconductors, Superconducting motors, superconducting machines for aerospace, ship propulsion motor, wind-power generators, superconducting machines for electric power system

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