



[Previous abstract](#) | [Graphical version](#) | [Text version](#) | [Next abstract](#)

**Session U14 - Focus Session: MgB<sub>2</sub>: Microwave Properties, Thin Films, Wires.**

*FOCUS session, Thursday afternoon, March 21*

*107, Indiana Convention Center*

**[U14.011] [MgB<sub>2</sub> \(2\) wire and its application to electric power](#)**

*Paul M. Grant (EPRI)*

The newly discovered superconductor, MgB<sub>2</sub>, has significant potential for several electric power applications, even though its critical temperature, T<sub>c</sub>, is “only” 39 K. Since its discovery in January, 2001, barely 15 months ago, there has been rapid improvement in the critical state parameters of MgB<sub>2</sub> (2), J<sub>c</sub> and H\*, properties crucial to deployment in power devices, which now rival NbTi at 4.2 K, and equal or surpass many of the high temperature superconducting copper oxide perovskites in the 20 – 25 K range. Also substantial progress has been achieved within this period realizing wire embodiments that appear economically scalable to commercial production. In this talk, we will review several opportunities to exploit these developments for transformer, motor and electric cable applications, and discuss a visionary power delivery system centered on an MgB<sub>2</sub>-based dc cable cooled by gaseous or liquid hydrogen supplying both electrical and chemical energy to the end user.

▪ [Part U of program listing](#)