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Sun-Mo-Spe1-05: [Invited] The user facilities and high field HTS magnet program at the National High Magnetic Field Laboratory

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The National High Magnetic Field Laboratory (MagLab) operates high field user facilities in Tallahassee (dc, NMR, EMR, ICR) and Gainesville (MRI, HiB/T), Florida, and Los Alamos, New Mexico (pulsed). These facilities serve approximately 2,000 scientists every year. The recent arrival of ultra-high field magnets based on the high temperature superconductors (HTS) is expected to impact most of these facilities. The MagLab has been leading the way in the development of ultra-high field HTS magnets and is now developing a 40 T all-superconducting (SC) magnet for condensed matter physics. The decision-making process that was used to choose between the various HTS materials and potential coil fabrication and protection methodologies in designing the 40 T SC magnet is described.

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