

Abstract Submitted  
for the TSF14 Meeting of  
The American Physical Society

**Superconducting Cable-in-Conduit: New Basis for Practical Applications** DANIEL CHAVEZ, Universidad Guanajuato — A new technology for superconducting cable-in-conduit is being developed at Texas A&M University. A single layer of round-wire superconductors is cabled onto a thin-wall metal spring tube, then sheathed in a high-strength tube. The CIC cable integrates the mechanical support, cryogenic cooling, quench protection within the cable so it can be fabricated into windings for magnets, motors, generators, and energy storage applications with far less complication than any previous conductor. Three applications will be summarized: a 4.5 T NbTi dipole for a 100 TeV hadron collider, a 3 T solenoid for superconducting magnetic energy storage, and a 3 T transport gantry for proton- and ion-beam cancer therapy.

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Date submitted: 10 Oct 2014

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