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Process Developments for the Improvement of Critical Current Density in Bi 2212 Multifilament Round Wire KYLE DAMBORSKY, NATHANIEL POGUE, CHRIS ENGLISH, AL MCINTURFF, PETER MCINTYRE, Texas A&M University — Fabricating high critical current density Bi 2212 multifilament round wire is a primary concern for high field magnet technology. Bi 2212 round wire is of particular interest in the development of future accelerator magnet technology and NMR devices. Currently, wire performance is hindered by filament porosity and a lack of texturing within the superconducting cores. The development of precursor powder refinement techniques, metallurgical processes, and novel filament construction show promise in reducing filament porosity and improving texturing of superconducting cores resulting in higher critical currents.

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