Contribution ID: **967** Type: **Poster Presentation**

M1Po2A-03 [27]: The Role of Cold High Pressure Densification (CHPD) on Enhancing Critical Current Density and Connectivity of in-situ MgB2 Strand.

Monday 22 July 2019 14:00 (2 hours)

Cold high pressure densification (CHPD) at pressure up to 1.5 GPa was used to enhance the critical current density (Jc) and connectivity of the in situ powder-in-tube (PIT) and hybrid MgB2 strand. First, the improvement of longitudinal and transverse magnetic Jcs were observed at 4.2 K and 10 K for PIT strands. The higher longitudinal and transverse connectivity in densified strands is shown to be responsible for increased magnetic Jc. Second, by using a combination of Mg rod and Mg powder distributed in B powder, the hybrid strand can have an increased thickness of MgB2 layer than IMD stand. Nevertheless, the MgB2 layer is porous in the hybrid strand. Therefore, the CHPD method is aimed at improving the connectivity of MgB2 layer in the hybrid strand and therefore at further enhanced conductor Jc and Je.

Primary author: WAN, Fang (The Ohio State University)

Co-authors: SUMPTION, Mike (The Ohio State University); Dr COLLINGS, Edward (The Ohio State University); RINDFLEISCH, Matthew; Mr THONG, Chee (Hyper Tech); Mr TOMSIC, Michael (Hyper Tech Research)

Presenter: WAN, Fang (The Ohio State University)

Session Classification: M1Po2A - Bulk Superconductors