

Coated Conductors on Tubular Metallic Wires by Combined Chemical Approaches

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Abstract - Fabrication of YBCO wires has been explored by using tubes formed from textured tapes. The texture of tubes made from Ni-5 at % W is characterized as a bi-axial texture developing along both the axis and the circumference of the cylinder. The deposition of a buffer layer by metal-organic deposition on such a tube is described with the practical example of $\text{La}_2\text{Zr}_2\text{O}_7$. A superconducting YBCO layer is deposited on top; its texture and the electrical performance are evaluated. In the present state of the art, the YBCO is superconducting at 88 K; it is textured, but can carry only weak supercurrents due to insufficient percolation paths. Improvements of the process are underway to enhance the transport current properties.

Keywords - YBCO, HTS wire, coated conductor, tubular conductor, textured tube, $\text{La}_2\text{Zr}_2\text{O}_7$, LZO

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See also P. Odier et al., [Supercond. Sci. Technol. 22, 125024 \(2009\)](#)