Can We Reach Fast Growth Methods for Coated Conductors at Competitive Costs?

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Abstract **- HTS coated conductors have become powerful materials for high temperature but also for low temperature and high magnetic field applications. However, their cost is still too demanding for large market penetration. We need to decrease the cost/performance ratio by developing fast growth, simpler processing, higher processing yield, lower capital investment methods. At the same time, we should foster higher critical current densities, thicker films, thinner substrate and robust and homogeneous material. I will concentrate in fast growth processing and its compatibility with high current HTS films and nanocomposites. Presently, several technologies may envisage ways towards fast processing. I will discuss these initiatives and the most disruptive advancements. I will also analyze the case of transient liquid assisted growth combined with chemical solution deposition (TLAG-CSD) which enables ultrafast growth, at 100 nm/s, of nanocomposites compatible with additive manufacturing scalable techniques.**

Acknowledgements: **The research leading to these results has received funding from ERC (EU ERC-AdG-2014-669504ULTRASUPERTAPE project), Programa excelencia Severo Ochoa SEV2015-0496**

Keywords (Index Terms) **– Coated Conductors, growth rates and manufacturing rates, transient liquid assisted growth.**

IEEE-CSC & ESAS SUPERCONDUCTIVITY NEWS FORUM (global edition), November 2019.
Received September 23, 2019; selected October 10, 2019. Reference STP655; Category 5.
Invited presentation 1-MO-CS-02I given at EUCAS, 01 – 05 September 2019, Glasgow (UK).