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Investigation of Current Characteristics in YBCO RABITS Tape
KRIS BARRACA, GUKSEON YOU, JEREMY YOUNG, L. WANG, CHUHEE KWON, Department of Physics and Astronomy, California State University Long Beach, MATERIALS CHARACTERIZATION LABORATORY TEAM — Using Variable Temperature Scanning Laser Microscopy (VTSLM), the current transport properties of high temperature superconducting YBCO RABITS tape are studied. Voltage response images are taken to map the critical temperature (Tc*), as well as the critical current (Jc*) of the YBCO RABITS sample. These maps are used to investigate the way the current flowed through the YBCO RABITS film. They showed that the current flows through the YBCO RABITS film by percolation. The size of percolation cluster is about 50- 150 micrometers. Some high voltage response areas in temperature scanning are related to the lower value of Tc* and Jc*. This means that some defects result in the crowded current in those areas.

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