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Study of MgB2 superconductors using X-ray Diffraction, Electrical Resistivity, and Magnetization Measurements CAD HOYT, TSUBASA ITO, GAN LIANG, Sam Houston State University — X-ray diffraction (XRD, electrical resistivity, and magnetization measurements have been performed on some Ti-sheathed MgB2 superconducting wires which were sintered at different temperatures. By these measurements, we were able to identify the superconducting phase in these materials, obtain the values of the superconducting transition temperature, and study how the critical current density varies with the sintering temperature. We will discuss about these measurement techniques together with the measurement results on the Ti-sheathed MgB2 wires.

Cad Hoyt
Sam Houston State University

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