

**Superconducting MgB<sub>2</sub> films with T<sub>c</sub> > 20K by Pulsed Laser Deposition.** H.Y. ZHAI, C. CANTONI, M. PARANTHAMAN, B. C. SALES, C. ROULEAU, D.K. CHRISTEN, D.H. LOWNDES, AND H.M. CHRISTEN, *Oak Ridge National Laboratory, Oak Ridge, Tennessee 37831-6056.*

Superconducting films of MgB<sub>2</sub> were prepared by Pulsed Laser Deposition on various metal and oxide substrates. Four-probe resistivity measurements on initial samples reveal a T<sub>c</sub> (zero resistance) of 22K with an onset at 28K. Results from the resistivity data above T<sub>c</sub> and from x-ray diffraction indicate that these films are multiphase and presumably Mg-deficient. We present results from different approaches to control the Mg:B ratio and discuss the influence of growth temperature and other deposition parameters on the stoichiometry and structure of these materials.

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