NMR studies of hydrogen storage materials: TiCl3-doped NaAlH4

SEAN BARRETT, ANATOLY DEMETNYEV, DALE LI, RONA RAMOS, YANQUAN DONG, Yale University Department of Physics — An exciting development in the field of hydrogen storage materials was the 1997 discovery that a small amount of Titanium doping can significantly improve the hydrogen discharging/recharging characteristics of sodium alanate (NaAlH4). Understanding the dopant action in this “model” compound may translate into the rational design of improved storage materials. We report static NMR measurements of both TiCl3-doped and undoped NaAlH4, including our detection of the Ti-NMR signal. Future directions will be discussed.

Sean Barrett
Yale University Department of Physics

Date submitted: 01 Dec 2004