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Acoustic Studies of the Superconductor Magnesium Diboride
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— MgB2 is currently of great interest because this simple two element compound is a superconductor with the highest transition temperature for a Bardeen-Cooper-Schieffer (BCS) type superconductor. As for other BCS superconductors, important quantities to measure through the superconducting transition include the ultrasound velocity and attenuation. Measuring these quantities for MgB2 is difficult because good single crystal samples are very small. Recently we have succeeded in making such measurements, using resonant ultrasound spectroscopy (RUS) for small samples[1], on high quality crystals grown epitaxially on SiC. We have also completed some preliminary measurements on small crystalline samples obtained from J. Karpinski. [1] J. D. Maynard, Physics Today,49,26-31 (1996), "Resonant Ultrasound Spectroscopy."

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