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A resonant ultrasound spectroscopy determination of the elastic constants of bulk metallic glasses ZHIYING ZHANG, RAPHAËL P. HERMANN, KATHLEEN AFFHOLTER, VEERLE KEPPENS, MARK L. MORRISON, GUOJIANG FAN, DONGCHUN QIAO, GONGYAO WANG, RAYMOND A. BUCHANAN, HAHN CHOO, PETER K. LIAW, Materials Science and Engineering, The University of Tennessee, USA, JOSEPH S. POON, Department of Physics, University of Virginia, USA, YOSHIHIKO YOKOYAMA, Himeji Institute of Technology, Japan — It has been shown recently that the fragility of a glass-forming liquid is closely related to the elastic constants, and in particular to Poisson's ratio, of the corresponding glass phase.[1] Resonant ultrasound spectroscopy yields simultaneously the bulk and shear moduli of millimeter-sized samples, and thus provides a convenient and non-destructive way to determine Poisson's ratio of bulk metallic glasses. The elastic constants and Poisson's ratio of several bulk metallic glasses have been measured as a function of temperature between 5 and 400 K, and the obtained data will be compared to fragility measurements. [The support from NSF IGERT EEC-9984548 and DMR 0206625, and of DARPA SAM Program under ONR Grant N00014-01-1-0961 is acknowledged.] [1] Novikov V. N. and Sokolov A. P., *Nature* **431**, 961-963 (2004)

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