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On the Relationship between HEL and Grain Size in Geological Materials C.H. BRAITHWAITE, D.J. CHAPMAN, J.E. FIELD, W.G. PROUD, Cavendish Laboratory, University of Cambridge, J.J. Thompson Avenue, CB3 0HE — Through the use of laterally mounted stress gauges the HELs of various geological materials have been measured. These materials, kimberlite, basalt, siltstone, quartz/feldspathic gneiss and amphibolite show a range of HEL values, from 1.3 GPa to 5 GPa. The value of the HEL appears to be influenced strongly by the grain size of the material, whereas, for example, it would appear to be independent of both the elastic properties and the measured Hugoniot. The current experimental data has been supplemented with relevant literature data.

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