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On the influence of texture on spall evolution in the HCP materials Ti64 and Zr JAMES SHACKEL, Cranfield University, EUAN WIELEWSKI, University of Glasgow, PAUL HAZELL, UNSW (Canberra), JONATHAN PAINTER, Cranfield University, DAVID RUGG, Rolls Royce Plc, DAVID WOOD, GARETH APPLEBY-THOMAS, Cranfield University — Dynamic tensile failure (spall) is known to be a highly microstructure-dependant phenomena. In particular, spall is greatly influenced by the availability of plastic failure modes such as slip planes. Significant effort has been put into understanding spall in the common engineering BCC and FCC materials, however there is a relative paucity of data on such behaviour in the highly anisotropic HCP class of materials. Here the dynamic behaviour of two important HCP materials, Ti64 and Zr is investigated via plate-impact experiments as a function of target material texture, with the aim of enhancing understanding of this complex class of materials.

Gareth Appleby-Thomas
Institute of Physics

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