Annular waves on the surface of impact-formed tektites

JOHN KOLINSKI, JOANNA AUSTIN, G. GIOIA, PINAKI CHAKRABORTY, SUSAN KIEFFER, University of Illinois at Urbana-Champaign — Tektites are naturally occurring pieces of glass formed by melting of terrestrial rocks during a meteorite impact. The most unusual tektites, known as Australites, were formed by an impact at an unknown site in Austro-Asia, and are found in a large strewn field covering Australia. These tektites solidified on ascent through the earth’s atmosphere, and partially remelted during re-entry. The thin remelted layer on the front surface shows distinct flanges with annular wavy structures. We propose that the annular wavy structure is a manifestation of surface waves on the flow of the thin layer.