

IUPUI Department of Physics Presents:

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Simulating the heat of asteroid impacts with aerodynamic levitation laser experiments

**Thursday,
January 19th, 2017*
3:30 pm, LD 010
402 N. Blackford Street**

**Refreshments at 3:00 pm in the Physics Conference Room LD 154B
For additional information call 274-6900**



Abstract:

Experiments using laser heating with aerodynamic levitation to have successfully reproduced the textures and diffusion profiles of major and minor elements observed in impact ejecta from the Australasian strewn field, by melting a powdered natural tektite mixed with 60-100 mm quartz grains on a flow of pure Ar gas. These experiments resulted in quantitative modeling of Si and Al diffusion, which allowed for interpretations regarding the thermal histories of natural tektites and their interactions with the surrounding impact vapor plume. Future experiments will employ gas mixing (CO, CO₂, H₂, O, Ar) in a controlled atmosphere levitation chamber to explore the range of fO_2 applicable to melt forming impacts on other rocky planetary bodies, including the moon and Mars.

*Physics colloquium is scheduled for 2016-17 academic year for every Thursday, 3:30 PM in LD 010. Changes to the schedule will be posted at

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