

## W0325

**MicroMounts: A New Approach to Crystal Handling and Mounting.** R. E. Thorne, Z. Stum, J. Kmetko, A. Bartnik, K. O'Neill, Physics Dept., Cornell Univ., Ithaca, NY 14853 USA.

We have recently described a new technology for manipulating and mounting macromolecular and small molecule crystals. The mount design consists of a thin (3-15 micron) microfabricated polyimide film attached to a cylindrical pin. The film has a small hole at its tip for the crystal connected via a drainage channel to a larger opening, into which a wick can be inserted for liquid removal. Film curvature induced by wrapping its base around the pin provides excellent rigidity and a convenient, scoop-like action that minimizes the risk of crystal loss and damage. Polyimide's excellent X-ray transparency result in very low background scatter, and its gold hue provides good optical contrast with most crystals.

MicroMounts are completely reproducible, facilitating automated retrieval and alignment of crystals, and the sample hole size, shape and orientation can be easily customized. They are ideally suited to data collection from crystals as small as 5 microns, and recent designs allow room-temperature data collection without capillaries. For additional information visit [www.ccmr.cornell.edu/~robt/micromounts.html](http://www.ccmr.cornell.edu/~robt/micromounts.html). This work is supported by the NIH and NASA.

[1] Thorne, R. E., Stum, Z., Kmetko, J., O'Neill, K., Gillilan, R. (2003). *J. Appl. Cryst.* 36, 1455-1460.