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RaPToRS Sample Delivery System[1] ROBERT HENCHEN, KYE SHIBATA, MICHAEL KRIEGER, EDWARD POGOZELSKI, STEPHEN PADALINO, VLADIMIR GLEBOV, CRAIG SANGSTER, SUNY GENESEO COLLABORATION, LABORATORY FOR LASER ENERGETICS AT UNIVERSITY OF ROCHESTER COLLABORATION — At various labs (NIF, LLE, NRL), activated material samples are used to measure reaction properties. The Rapid Pneumatic Transport of Radioactive Samples (RaPToRS) system quickly and safely moves these radioactive samples through a closed PVC tube via airflow. The carrier travels from the reaction chamber to the control and analysis station, pneumatically braking at the outlet. A reversible multiplexer routes samples from various locations near the shot chamber to the analysis station. Also, the multiplexer allows users to remotely load unactivated samples without manually approaching the reaction chamber. All elements of the system (pneumatic drivers, flow control valves, optical position sensors, multiplexers, Geiger counters, and release gates at the analysis station) can be controlled manually or automatically using a custom LabVIEW interface. A prototype is currently operating at NRL in Washington DC. Prospective facilities for Raptors systems include LLE and NIF.

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Robert Henchen

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