

Abstract Submitted
for the DPP08 Meeting of
The American Physical Society

High-Speed RaPToRS¹ ROBERT HENCHEN, BENJAMIN ESHAM, WILLIAM BECKER, EDWARD POGOZELSKI, STEPHEN PADALINO, SUNY Geneseo, THOMAS SANGSTER, VLADIMIR GLEBOV, Laboratory for Laser Energetics — The High-Speed Rapid Pneumatic Transport of Radioactive Samples (HS-RaPToRS) system, designed to quickly and safely move radioactive materials, was assembled and tested at the Mercury facility of the Naval Research Laboratory (NRL) in Washington D.C. A sample, which is placed inside a four-inch-diameter carrier, is activated before being transported through a PVC tube via airflow. The carrier travels from the reaction chamber to the end station where it pneumatically brakes prior to the gate. A magnetic latch releases the gate when the carrier arrives and comes to rest. The airflow, optical carrier-monitoring devices, and end gate are controlled manually or automatically with LabView software. The installation and testing of the RaPToRS system at NRL was successfully completed with transport times of less than 3 seconds. The speed of the carrier averaged 16 m/s. Prospective facilities for similar systems include the Laboratory for Laser Energetics and the National Ignition Facility.

¹Funded in part by the US Department of Energy through the Lab for Laser Energetics

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Date submitted: 18 Jul 2008

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