

Space Readiness Coherent Lidar Experiment (SPARCLE) Space Shuttle Mission

M. J. Kavaya and G. D. Emmitt

Abstract

For over 20 years researchers have been investigating the feasibility of profiling tropospheric vector wind velocity from space with a pulsed Doppler lidar. Efforts have included theoretical development, system and mission studies, technology development, and ground-based and airborne measurements. Now NASA plans to take the next logical step towards enabling operational global tropospheric wind profiles by demonstrating horizontal wind measurements from the Space Shuttle in early 2001 using a coherent Doppler wind lidar system.