



Active Polarimetric $1.57 \mu\text{m}$ Eye-Safe Lidar

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An eye-safe active polarimetric lidar for high latitude Arctic boundary layer, aerosol and cloud research is reported. The article describes the optical design for $1.57 \mu\text{m}$ -NIR wavelength operation and the active polarization control in the laser emission and in the lidar receiver. Lidar applications for boundary layer, aerosols and cloud research in high and mid-latitude including aerosol backscattering profiling, differential polarimetric reflectivity in clouds and preliminary full stokes polarimetry will be discussed during this presentation.