LIDAR (Light Detection And Ranging) system sensitive to the polarization of the backscattered signal is being developed in Yerevan Physics Institute. The system is designed primarily for remote sensing of the atmospheric electric fields. At present, the system is being tuned for measuring vertical atmospheric backscatter profiles of aerosols and hydrometeors, analyze the depolarization ratio of elastic backscattered laser beams and investigate the influence of external factors on the beam polarization. In this paper, we describe the complete LIDAR system: the laser transmitter, receiving telescope, the polarization separator and the registration and control system.

Figure 1: The YERPHI Polarization LIDAR System