



Multi-parameter detection of atmospheric metal layers by Beijing Na–K lidar

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Beijing Na–K lidar has been started running in 2010. This lidar has two laser beams: one dye laser emits a 589-nm laser beam for Na layer detection; the other dye laser emits a 770-nm laser beam for K layer detection. Under similar conditions, the echo signal of K layer is only about 2 orders of magnitude smaller than that of Na layer. This lidar has a sufficient Signal Noise Ratio (SNR). The structure and details of potassium layer can be effectively distinguished from a single original echo. Several examples of co-observation of density of Na and K layer showed some different results with previous studies. This lidar not only can supplement the lack of Na and K layer observation at this latitude region, but also provide evidence for the atmospheric sciences and space environment monitoring.