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In the above technical presentation, MEGIE reported the first simultaneous measurements of sodium and potassium density in the upper atmosphere. The laser radar system consisted of two dye lasers, tuned to the  $D_2$  line of the sodium atom and to the resonance line of the potassium atom, and an 82-cm-diameter Coudé telescope together with photon-counting apparatus. One dye laser, pumped by two flashlamps,

delivered 0.8–1 J output power with  $\sim 8$  pm spectral width and 0.5–1 Hz repetition rate, while the other laser, pumped by a *Q*-switched ruby laser, emitted  $\sim 1$  J output power with  $\sim 7$  pm width and 0.1 Hz repetition rate. The same height of around 91 km for the density maximum for the two atomic constituents was observed over 3 nights during the end of July 1975, whereas another profile obtained at the beginning of July indicated the sodium maximum to be 3 km higher. He also reported that the abundance ratio  $\text{Na/K} \sim 58 \pm_{15}^{20}$  is consistent only with a sea water source. Furthermore, a sporadic increase in both sodium and potassium densities was observed during the night of July 29, 1975, which appeared to be attributable to the Perseids permanent shower. A temperature distribution corresponding to the thermal equilibrium of atmospheric neutral species was also derived from the Doppler width of the scattered line at the sodium  $D_2$  transition in the range of 85–100 km.

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