

LASER RADAR MEASUREMENTS OF ATMOSPHERIC POTASSIUM

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ABSTRACT

A dye laser capable of transmitting in the near infra red region of the spectrum has been constructed to be used in conjunction with the large Mark II laser system at present in existence at Kingston, Jamaica.

Preliminary measurements have been obtained of concentration of atomic potassium in the 70-100 km region of the atmosphere. The data indicates the likelihood of a double peak in the height distribution. The lower peak, which is the larger, is at a height of about 82 km, the upper peak is at a height of 94 km. Although an exact value for the scattering cross-section has not been obtained, a reasonable approximation of this parameter yields a value of about $1-15 \times 10^{11} \text{ m}^{-2}$ for the column density of atomic potassium, which is in agreement with other data.

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