

Abstracts

Two-Photon Pumping of a Four-Level System in Ammonia to Obtain 12.16 μm Radiation for Isotope Separation

J.W. Leap, K.J. Kim, E.G. Malk and P.D. Coleman. "Two-Photon Pumping of a Four-Level System in Ammonia to Obtain 12.16 μm Radiation for Isotope Separation." 1978 MTT-S International Microwave Symposium Digest 78.1 (1978 [MWSYM]): 424-426.

Radiation at 12.16 μm (822.65 cm^{-1}) has been obtained from $^{14}\text{NH}_3$ using the $2\text{u}/53$ to $\text{u}/63$ transition with the upper level pumped from Ga(33) via $\text{u}/43$ by two CO_2 TEA lasers. In an unoptimized cavity, efficiency was 1%: 0.5 mJ of 12.16 μm out with 50 mJ of input (25% $\text{P}/9(8)$ $^{13}\text{CO}_2$ and 75% $\text{P}/9(24)$ $^{12}\text{CO}_2$). This particular wavelength is relevant to LIS of uranium.

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