

<sup>12</sup>CD<sub>3</sub>OH MOLECULE: A GOOD LASER SOURCE OF FAR-INFRARED RADIATION IN THE SPECTRAL RANGE 22 TO 3030 MICRONS

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<sup>12</sup>CD<sub>3</sub>OH is one of the most important methanol isotopomers for the generation of far-infrared (FIR) radiation. Over 400 FIR laser lines in the wavelength range 22 to 3030 μm have been discovered in this molecule, mainly by optically pumping it with a CO<sub>2</sub> laser. High frequency laser lines with wavelength below 160 μm account for forty-five percent of the lines. This work presents an overview of the FIR laser lines discovered in <sup>12</sup>CD<sub>3</sub>OH along with their frequency measurements, and recently obtained data for newly discovered lines. This will serve to highlight the availability of frequency measured laser lines that can be used in various applications, with particular interest in the high-energy range ( $\lambda \leq 160 \mu\text{m}$ ). Several of the frequency measured laser lines have already been used in laser magnetic resonance spectroscopy.