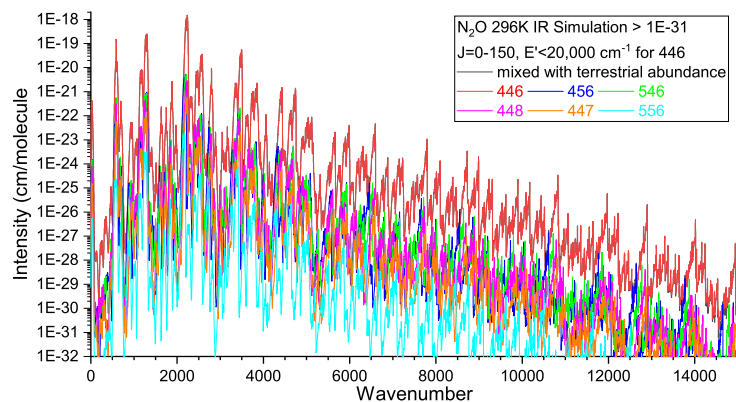


## AMES-1 296K IR LINE LISTS FOR N<sub>2</sub>O ISOTOPOLOGUES

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0 - 20,000 cm<sup>-1</sup>. In general, the "Ames-1 PES + Ames-1 DMS" intensity finds good agreement with HITRAN, and a few bands > 10,000 cm<sup>-1</sup>. Isotopologue line lists are compared to published Effective Hamiltonian models for potential combination of reliable intensities and accurate line positions. Future improvements are planned for PES, DMS and line lists. See <http://huang.seti.org> for latest update.

Ames-1 296K IR Line lists are reported for N<sub>2</sub>O in the range of 0 - 15,000 cm<sup>-1</sup>, with line intensity cut off at 1E-30 cm/molecule.<sup>a</sup> Six isotopologues (446,456,546,448,447 and 556) are included in a "natural" N<sub>2</sub>O combo list with their terrestrial abundances. The Ames-1 potential energy surface (PES) for N<sub>2</sub>O was refined using selected HITRAN data (J<80) up to 8000 cm<sup>-1</sup> and additional levels (J=0-1) up to 15,000 cm<sup>-1</sup> with reduced weights. For 6908 J=0-98 levels of <sup>14</sup>N<sub>2</sub><sup>16</sup>O in HITRAN2020, the Ames-1 based levels agree with  $\sigma_{rms}=0.021$  cm<sup>-1</sup>. The Ames-1 dipole moment surface (DMS) was fit from extrapolated CCSD(T)/aug-cc-pV(T,Q,5)Z dipoles, with fitting  $\sigma_{rms} = 2.7E-5$  a.u. for 5184 points in

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