



The resurrection of the HITEMP database and its application to the study of stellar and planetary atmospheres

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The HITRAN database is recognized as the standard reference catalog of spectroscopic parameters for gaseous absorption in the terrestrial atmosphere. Unlike HITRAN, its once popular companion database suitable for use at high temperatures (HITEMP) was not evolving in the last decade and therefore was not up-to-date with recent measurements, theoretical calculations, and consistency with HITRAN. Now this database is being resurrected to support different areas of research, such as remote sensing of exhaust gases and the study of stellar and planetary atmospheres.

The spectral parameters of H₂O, CO₂, CO, NO, OH and CH₄ molecules are now being updated and included in the database. Both experimental and theoretical works are very difficult at elevated temperatures, and extreme care is being taken to find the best available values for HITEMP. The process of revitalizing the HITEMP database will be presented, and its applications will be discussed.

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