

FROM NARROW BAND TO FULL SPECTRUM SLMB PARAMETERS: A TRANSFORMATION TECHNIQUE TO ALLOW MEANINGFUL MODEL COMPARISONS

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ABSTRACT. The present work is dedicated to the development of a simple and reliable numerical technique to derive Full Spectrum Spectral-Line Moment-Based (FS-SLMB) model parameters from narrow band ones. The method is presented and assessed through comparisons with reference Line-By-Line (LBL) data for CO₂, in terms of total emissivities and full spectrum cumulated k -distributions. Results demonstrate that the proposed approach is accurate and therefore is likely to allow future comparisons between FS-SMLB model calculation results and narrow band based ones whenever it is not possible to perform LBL reference simulations.