

THE N₂ C'' ⁵Π_{ui} (v=3) STATE: AN OPPORTUNITY FOR SPIN-ORBIT CHICANERY

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The N₂ C'' ⁵Π_{ui} (v=3) state has been fully characterized by observation and rotational analysis of the N₂ C'' ⁵Π_{ui}-A' ⁵Σ_g⁺ (3-1) band. The spin-splittings in the C'' ⁵Π_{ui} state are observed^b (see previous presentation) and are found to be consistent with semi-empirical predictions of diagonal and isoconfigurational off-diagonal spin-orbit coupling constants.^c A short tutorial on prediction of spin-orbit matrix elements will be presented, drawing heavily on material presented in "The Spectra and Dynamics of Diatomic Molecules" by H. Lefebvre-Brion and RWF.

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