RENNER-TELLER CORRELATION DIAGRAMS FOR ORBITAL ANGULAR MOMENTUM IN Π AND Δ STATES OF TRIATOMIC MOLECULES

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A method is described for relating the energy level correlation diagrams introduced by Renner to the angular momentum "sawtooth" correlation diagrams constructed by Jungen and Merer.[b] In order to do this new spin-orbit coupling versions of the diagrams are introduced for the strictly linear and bent-linear behaviour, and a version of the linear "sawtooth" diagram is constructed. Finally the effects of vibrational resonances are introduced to modify the interference effects seen in the "sawtooth" diagrams. The diagrams are constructed using an extension of the calculation method first introduced by Barrow, Dixon and Duxbury [c] to allow $\langle Lz \rangle$ to be obtained.

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[c] Molec. Phys. 27, 1217 (1974)