An "Effective Hamiltonian" for quasi-degenerate
many-body perturbation theory

by

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A B S T R A C T

The Quasi-degenerate Rayleigh - Schrodinger Perturbation Theory (QD - RSPT) is presented using an effective operator formalism. The theory is then applied in the investigation of diagonal matrix elements that arise at third-order for a two valence-electron system.

The core-valence separation is shown explicitly up to third-order and the Exclusion Principle Violating remainders carefully analysed.

Cancellation of unlinked folded diagrams is also investigated.