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Post-Hartree-Fock Correlation Models

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We have developed post-Hartree-Fock correlation models for all of dynamical, nondynamical, and dispersion correlations, based on real-space modelling of the correlation hole. Many of the outstanding problems in the density-functional theory of atomic, molecular, and condensed matter systems arise from local exchange approximations. Our post-Hartree-Fock approach circumvents these. The latest developments will be reported,