

Molpro

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Molpro is a general purpose quantum chemistry software package with a long development history. It was originally focused on accurate wavefunction calculations for small molecules but now has many additional distinctive capabilities that include, *inter alia*, local correlation approximations combined with explicit correlation, highly efficient implementations of single-reference correlation methods, robust and efficient multireference methods for large molecules, projection embedding, and anharmonic vibrational spectra. In addition to conventional input-file specification of calculations, Molpro calculations can now be specified and analyzed via a graphical user interface and through a Python framework.

Recent developments, including improved density functional quadrature, will be described.

References

<https://www.molpro.net>

H.-J. Werner, P. J. Knowles, G. Knizia, F. R. Manby and M. Schütz, WIREs Comput Mol Sci 2, 242-253 (2012), doi:10.1002/wcms.82.

H.-J. Werner, P. J. Knowles, F. R. Manby, J. A. Black, K. Doll, A. Heßelmann, D. Kats, A. Köhn, T. Korona, D. A. Kreplin, Q. Ma, T. F. Miller, III, A. Mitrushchenkov, K. A. Peterson, I. Polyak, G. Rauhut, and M. Sibaev J. Chem. Phys. 152, 144107 (2020). doi:10.1063/5.0005081