# Jacek Kobus

## List of Publications by Year
in descending order

| | | | |
|---|---|---|---|
| 37 papers | 847 citations | 471509<br>17 h-index | 477307<br>29 g-index |
| 37 all docs | 37 docs citations | 37 times ranked | 482 citing authors |

| # | Article | IF | Citations |
|---|---------|-----|-----------|
| 1 | A numerical Hartree-Fock program for diatomic molecules. Computer Physics Communications, 1996, 98, 346-358. | 7.5 | 123 |
| 2 | Finite-difference versus finite-element methods. Chemical Physics Letters, 1993, 202, 7-12. | 2.6 | 78 |
| 3 | Interatomic Coulombic Decay: The Mechanism for Rapid Deexcitation of Hollow Atoms. Physical Review Letters, 2017, 119, 103401. | 7.8 | 69 |
| 4 | A comparison of finite difference and finite basis set Hartree-Fock calculations for the ground state potential energy curve of CO. Journal of Physics B: Atomic, Molecular and Optical Physics, 1994, 27, 5139-5147. | 1.5 | 46 |
| 5 | A comparison of finite basis set and finite difference methods for the ground state of the CS molecule. Journal of Physics B: Atomic, Molecular and Optical Physics, 1994, 27, 2867-2875. | 1.5 | 44 |
| 6 | A universal basis set for high precision electronic structure studies. Journal of Physics B: Atomic, Molecular and Optical Physics, 1995, 28, 4555-4557. | 1.5 | 40 |
| 7 | A comparison of finite basis set and finite difference Hartree-Fock calculations for the BF, AlF and GaF molecules. Molecular Physics, 1995, 86, 1315-1330. | 1.7 | 39 |
| 8 | Comparison of the electric moments obtained from finite basis set and finite-difference Hartree-Fock calculations for diatomic molecules. Physical Review A, 2000, 62, . | 2.5 | 35 |
| 9 | Vectorizable algorithm for the (multicolour) successive overrelaxation method. Computer Physics Communications, 1994, 78, 247-255. | 7.5 | 33 |
| 10 | Diatomic Molecules: Exact Solutions of HF Equations. Advances in Quantum Chemistry, 1997, , 1-14. | 0.8 | 33 |
| 11 | Quasirelativistic methods. International Journal of Quantum Chemistry, 1985, 28, 741-756. | 2.0 | 32 |
| 12 | A finite difference Hartree–Fock program for atoms and diatomic molecules. Computer Physics Communications, 2013, 184, 799-811. | 7.5 | 30 |
| 13 | Matrix elements of rqfor quasirelativistic and Dirac hydrogenic wavefunctions. Journal of Physics A, 1987, 20, 3347-3352. | 1.6 | 24 |
| 14 | Comparison of the polarizabilities and hyperpolarizabilities obtained from finite basis set and finite difference Hartree-Fock calculations for diatomic molecules. Journal of Physics B: Atomic, Molecular and Optical Physics, 2001, 34, 5127-5143. | 1.5 | 24 |
| 15 | The dirac second-order equation and an improved quasirelativistic theory of atoms. International Journal of Quantum Chemistry, 1986, 30, 809-819. | 2.0 | 23 |
| 16 | Three-photon resonances due to autoionizing states in calcium. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, 1801-1817. | 1.5 | 18 |
| 17 | An effective quasirelativistic hamiltonian. Chemical Physics, 1981, 55, 361-369. | 1.9 | 17 |
| 18 | Comparison of the polarizabilities and hyperpolarizabilities obtained from finite basis set and finite difference Hartree–Fock calculations for diatomic molecules: III. The ground states of N2, CO and BF. Journal of Physics B: Atomic, Molecular and Optical Physics, 2007, 40, 877-896. | 1.5 | 17 |

| # | Article | IF | Citations |
|---|---------|-----|-----------|
| 19 | Three-photon ionization of Ca. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 2259-2278. | 1.5 | 15 |
| 20 | A relativistic crystal field for S-state f electron ions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2001, 34, 1513-1522. | 1.5 | 15 |
| 21 | Hartree-Fock limit values of multipole moments, polarizabilities, and hyperpolarizabilities for atoms and diatomic molecules. Physical Review A, 2015, 91, . | 2.5 | 12 |
| 22 | A comparison of finite basis set and finite difference Hartree-Fock calculations for the InF and TlF molecules. Molecular Physics, 1998, 93, 713-725. | 1.7 | 10 |
| 23 | Relativistic and correlation effects on spectroscopic constants of the hydrogen astatide molecule. Chemical Physics Letters, 2003, 369, 441-448. | 2.6 | 9 |
| 24 | Comparison of the polarizabilities and hyperpolarizabilities obtained from finite basis set and finite difference Hartree–Fock calculations for diatomic molecules: II. Refinement of basis sets and grids for hyperpolarizability calculations. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, 571-585. | 1.5 | 9 |
| 25 | Distributed Gaussian basis sets: a comparison with finite difference Hartree–Fock calculations for potential energy curves of $H_2$, LiH and BH. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 205102. | 1.5 | 9 |
| 26 | A comparison of finite difference and finite basis set Hartree-Fock calculations for the N2molecule with finite nuclei. Journal of Physics B: Atomic, Molecular and Optical Physics, 2001, 34, 2045-2056. | 1.5 | 7 |
| 27 | Numerical comparison between DHF and RHF methods. Journal of Physics B: Atomic and Molecular Physics, 1987, 20, 4949-4961. | 1.6 | 6 |
| 28 | Bond centred functions in relativistic and non-relativistic calculations for diatomics. Chemical Physics, 2006, 321, 277-284. | 1.9 | 6 |
| 29 | Visualization of deficiencies in approximate molecular wave functions: the orbital amplitude difference function for the matrix Hartree-Fock description of the ground state of the boron fluoride molecule. Molecular Physics, 1997, 92, 1015-1028. | 1.7 | 4 |
| 30 | Quasirelativistic calculations of the elastic scattering of slow electrons from Xe atoms. Physica Scripta, 1987, 36, 436-440. | 2.5 | 3 |
| 31 | Comment on "A comparison of relativistic and quasirelativistic line strengths" by A. K. Mohanty and D. H. Sampson. Physica Scripta, 1988, 38, 554-556. | 2.5 | 3 |
| 32 | A comparison of finite basis set and finite difference Hartree–Fock calculations for the open-shell (X2Σ+) molecules BaF and YbF. Molecular Physics, 2002, 100, 499-508. | 1.7 | 3 |
| 33 | Overview of finite difference Hartree-Fock method algorithm, implementation and application. AIP Conference Proceedings, 2012, , . | 0.4 | 3 |
| 34 | A numerical solution of the pair equation of a model two‐electron diatomic system. International Journal of Quantum Chemistry, 2015, 115, 868-874. | 2.0 | 3 |
| 35 | Numerical Methods for Solving the Hartree-Fock Equations of Diatomic Molecules II. Communications in Computational Physics, 2016, 19, 632-647. | 1.7 | 3 |
| 36 | Numerical Hartree–Fock and Many-Body Calculations for Diatomic Molecules. Advances in Quantum Chemistry, 2018, 76, 103-116. | 0.8 | 2 |

| # | ARTICLE | IF | CITATIONS |
|---|---------|-----|-----------|
| 37 | Two-dimensional, finite-difference method of solving the Dirac equation for diatomic molecules revisited. Molecular Physics, 0, , . | 1.7 | 0 |