

Publications:

- F. Mrugała, Act. Phys. Pol. **A54**, 383–96 (1978),
Modification of the amplitude density function method
- F. Mrugała, G. Staszewska, Act. Phys. Pol. **A54**, 99–108 (1978),
The refined Born approximation
- S. Dembiński, A. Kossakowski, F. Mrugała, Lett. Nuo. Cim. **26**, 345 (1979),
Stationary state of a laser with saturable absorber in non-diffusive approximation
- F. Mrugała, P. Pełowski, Z. Physik **B38**, 359–64 (1980),
Stability investigations of laser with saturable absorber
- F. Mrugała, Chem. Phys. **49**, 241–45 (1980),
Relationships among R-matrix propagation, amplitude density function and invariant imbedding methods
- F. Mrugała, D. Secrest, J. Chem. Phys. **78**, 5954–61 (1983),
The generalized log-derivative method for inelastic and reactive collisions
- F. Mrugała, D. Secrest, J. Chem. Phys. **79**, 5960–68 (1983),
A symmetrized generalized log-derivative method for inelastic and reactive scattering
- F. Mrugała, J. Comput. Phys. **58**, 113–33 (1985),
Log-derivative method for two-potential scattering problems
- F. Mrugała, J. Comput. Phys. **68**, 393–419 (1987),
Hybrid approximate solution-approximate potential approach to the solution of the coupled equations for atom-molecule reactive scattering
- F. Mrugała, J. Römelt, Chem. Phys. **118**, 295–312 (1987),
A generalized log-derivative method for the treatment of asymmetric collinear reactions in hyperspherical coordinates
- R. H. Bisseling, R. Kosloff, J. Manz, F. Mrugała, J. Römelt, G. Weichselbaumer, J. Chem. Phys. **86**, 2626–38 (1987),
Lifetimes of local and hyperspherical resonances of ABA molecules
- F. Mrugała, Mol. Phys. **65**, 377–89 (1988),
Predissociation of the $D^1\Pi_u^+$ state of H_2 by photon impact
- F. Mrugała, J. Chem. Phys. **91**, 874–89 (1989),
The generalized log-derivative method for evaluation of second-order transition amplitudes
- F. Mrugała, J. Chem. Phys. **93**, 1257–72 (1990),
Application of the log-derivative method to variational calculations for inelastic and reactive scattering
- F. Mrugała, Int. Rev. Phys. Chem. **12**, 1–60 (1993),
The coupled equations problem of the quantum theory of atom-diatom reactive scattering
- F. Mrugała, R. Moszynski, J. Chem. Phys. **109**, 10823–37 (1998),
Near-infrared absorption spectrum of the Ar-HD complex: Confrontation of theory with experiment
- F. Mrugała, P. Piecuch, V. Spirko, O. Bludsky, J. Molec. Structure **555**, 43–60 (2000),
Lifetimes and dissociation pathways of the quasi-bound states of the $Na \cdots FH$ van der Waals molecule

- F. Mrugała, J. Chem. Phys. **115**, 3155-72 (2001),
Near-infrared absorption spectrum of the Ar-HD complex: A theoretical study of predissociation effects
 - F.D. Colavecchia, F. Mrugała, G.A. Parker, R.T Pack, J. Chem. Phys. **118**, 10387-98 (2003),
Accurate quantum calculations on three-body collisions in recombination and collision-induced dissociation. II. The smooth variable discretization enhanced renormalized Numerov propagator
 - F. Mrugała, V. Spirko, W.P. Kraemer, J. Chem. Phys. **118**, 10547-60 (2003),
Radiative association of HeH_2^+
 - F. Mrugała, W.P. Kraemer, J. Chem. Phys. **122**, 224321-18 (2005),
Radiative association of He^+ with H_2 at temperatures below 100 K
 - F. Mrugała, J. Chem. Phys. **129**, 064314-1-17 (2008)
A computational study of metastable states of CO^{2+} .
 - F. Mrugała, W. P. Kraemer, J. Chem. Phys. **138**, 104315-1-28 (2013)
Radiative charge transfer in $He^+ + H_2$ collisions in the milli- to nano-electron-volt range. A theoretical study within state-to-state and optical potential approaches
-
- F. Mrugała, *An invariant imbedding approximate solution-type algorithm for solving coupled equations for scattering*, XIII International Conference on Physics of Electronic and Atomic Collisions, Berlin 1983, Abstracts of Contributed Papers, p. 60
 - F. Mrugała, J. Römelt, *The log-derivative method for reactive collisions*, Current trends in theoretical chemistry II. Zakopane, 1987. p33
 - F. Mrugała *The generalized log-derivative algorithm for evaluation of second-order transition amplitudes*, 3rd International Symposium on Elementary Processes and Chemical Reactivity, Liblice, 1989. p. 64
 - F. Mrugała, *Calculation of parameters of multichannel resonances with the generalized log-derivative algorithm*, IX European Conference on Dynamics of Molecular Collisions, Prague 1992, Book of Abstracts, p. 276-7
 - F. Mrugała, *Resonances in Collision-Induced Absorption. The near-infrared spectrum of the Ar-HD($v=0, j=1$) complex*. 11-th European Seminar on Computational Methods in Quantum Chemistry, Zakopane, Poland, September, 1999.
 - F. D. Colavecchia, G. A. Parker, F. Mrugała, R. T Pack, *A smooth variable discretization (SVD) method for atomic collision induced dissociation and recombination*, International Conference on Photonic, Electronic, and Atomic Collisions (ICPEAC), Santa Fe, 2001
 - P. Piecuch, V. Spirko, R. Burcl, K. Kowalski, SA. Kucharski, F. Mrugała, O. Bludsky, *Effect of the potential energy surface on the dynamics of weakly bound complexes and new "black-box" coupled-cluster methods for entire potential energy surfaces of reactive molecular systems*, Abstracts of Papers of the American Chemical Society, vol. 222, p.U237, 2001
 - V. Spirko, P. Slavicek, F.Mrugała, *Bound and quasi-bound states of the Ne-HBr complex*, 17th International Conference on High Resolution Molecular Spectroscopy, Prague, 2002