List of publications of Nimrod Moiseyev

Journal Articles

1 Ben-asher, A., Landau, A., & **Moiseyev**, **N.** (2021). Uniform vs partial scaling within resonances via pade based on the similarities to other non-hermitian methods: Illustration for the beryllium 1s(2)2p3s state. *J. Chem. Theory Comput.*, *17*(6), 3435–3444. doi:10.1021/acs.jctc.1c00223

2 Dann, R., Elbaz, G., Berkheim, J., Muhafra, A., Nitecki, O., Wilczynski, D., & **Moiseyev**, **N.** (2021). Variational solutions for resonances by a finite-difference grid method. *Molecules*, *26*(17). doi:10.3390/molecules26175248

3 **Moiseyev**, **N.**, & Sindelka, M. (2021). Transfer of information through waveguides near an exceptional point. *Phys. Rev. A*, *103*(3). doi:10.1103/PhysRevA.103.033518

4 Sindelka, M., Ben-asher, A., & **Moiseyev**, **N.** (2021). Acceleration-gauge hamiltonian for a laser-driven particle with a position-dependent mass. *Phys. Rev. A*, *103*(5). doi:10.1103/PhysRevA.103.053117

5 Ben-asher, A., Landau, A., Cederbaum, L. S., & **Moiseyev**, **N.** (2020). Quantum effects dominating the interatomic coulombic decay of an extreme system. *J. Phys. Chem. Lett.*, *11*(16), 6600–6605. doi:10.1021/acs.jpclett.0c01974

6 Ben-asher, A., Simsa, D., Uhlirov, T., Sindelka, M., & **Moiseyev**, **N.** (2020). Laser control of resonance tunneling via an exceptional point. *Phys. Rev. Lett.*, *124*(25). doi:10.1103/PhysRevLett.124.253202

7 Bhattacharya, D., Landau, A., & **Moiseyev**, **N.** (2020). Ab initio complex transition dipoles between autoionizing resonance states from real stabilization graphs. *J. Phys. Chem. Lett.*, *11*(14), 5601–5609. doi:10.1021/acs.jpclett.0c01519

8 Feilhauer, J., Schumer, A., Doppler, J., Mailybaev, A. A., Bohm, J., Kuhl, U., ... Rotter, S. (2020). Encircling exceptional points as a non-hermitian extension of rapid adiabatic passage. *Phys. Rev. A*, *102*(4). doi:10.1103/PhysRevA.102.040201

9 Landau, A., Ben-asher, A., Gokhberg, K., Cederbaum, L. S., & **Moiseyev**, **N.** (2020). Ab initio complex potential energy curves of the he-*(1s2p p-1)-li dimer. *J. Chem. Phys.*, *152*(18). doi:10.1063/5.0008337

10 Pawlak, M., Zuchowski, P. S., **Moiseyev**, **N.**, & Jankowski, P. (2020). Evidence of nonrigidity effects in the description of low-energy anisotropic molecular collisions of hydrogen molecules with excited metastable helium atoms. *J. Chem. Theory Comput.*, *16*(4), 2450–2459. doi:10.1021/acs.jctc.0c00183

11 Shmuel, G., & **Moiseyev**, **N.** (2020). Linking scalar elastodynamics and non-hermitian quantum mechanics. *Phys. Rev. Appl.*, *13*(2). doi:10.1103/PhysRevApplied.13.024074

12 Bhattacharya, D., Pawlak, M., Ben-asher, A., Landau, A., Haritan, I., Narevicius, E., & **Moiseyev**, **N.** (2019). Quantum effects in cold molecular collisions from spatial polarization of electronic wave function. *J. Phys. Chem. Lett.*, *10*(4), 855–863. doi:10.1021/acs.jpclett.8b03807

13 Goldzak, T., & **Moiseyev**, **N.** (2019). Towards a wavelength sensitive detector, based on icd in a system of coupled quantum wells. *Abstr. Pap. Am. Chem. Soc.*, *258*. ACS Fall National Meeting and Exposition, San Diego, CA, AUG 25-29, 2019

14 **Moiseyev**, **N.** (2019). Quantum effects in cold molecular collisions from spatial polarization of electronic wave function. *Abstr. Pap. Am. Chem. Soc.*, *257*. 257th National Meeting of the American-Chemical-Society (ACS), Orlando, FL, MAR 31-APR 04, 2019

15 Pick, A., Silberstein, S., Moiseyev, N., & Bar-gill, N. (2019). Robust mode conversion in nv centers using exceptional points. *Phys. Rev. Res.*, *1*(1). doi:10.1103/PhysRevResearch.1.013015

16 Pick, A., Kapralova-zd'anska, P. R., & **Moiseyev**, **N.** (2019). Ab-initio theory of photoionization via resonances. *J. Chem. Phys.*, *150*(20). doi:10.1063/1.5098063

17 Ben-asher, A., Narevicius, E., & **Moiseyev**, **N.** (2018). The effect of large autoionization decay rates (resonance widths) on cold molecular cross-sections and the reflection phenomenon. *Chem. Phys.*, *515*, 88–93. doi:10.1016/j.chemphys.2018.08.047

18 Berman, M., & **Moiseyev**, **N.** (2018). Exceptional points in the riesz-feller hamiltonian with an impenetrable rectangular potential. *Phys. Rev. A*, *98*(4). doi:10.1103/PhysRevA.98.042110

19 Goldzak, T., Mailybaev, A. A., & **Moiseyev**, **N.** (2018). Light stops at exceptional points. *Phys. Rev. Lett.*, *120*(1). doi:10.1103/PhysRevLett.120.013901

20 Neufeld, O., Sharabi, Y., Ben-asher, A., & **Moiseyev**, **N.** (2018). Calculating bound states resonances and scattering amplitudes for arbitrary 1d potentials with piecewise parabolas. *J. Phys. A-Math. Theor.*, *51*(47). doi:10.1088/1751-8121/aae666

21 Pawlak, M., Ben-asher, A., & **Moiseyev**, **N.** (2018). Simple closed-form expression for penning reaction rate coefficients for cold molecular collisions by non-hermitian time-independent adiabatic scattering theory. *J. Chem. Theory Comput.*, *14*(1), 236–241. doi:10.1021/acs.jctc.7b01017

22 Pick, A., & **Moiseyev**, **N.** (2018). Polarization dependence of the propagation constant of leaky guided modes. *Phys. Rev. A*, *97*(4). doi:10.1103/PhysRevA.97.043854

23 Sindelka, M., & **Moiseyev**, **N.** (2018). Quantum uncertainties and heisenberg-like uncertainty relations for a weak measurement scheme involving two arbitrary noncommuting observables. *Phys. Rev. A*, *97*(1). doi:10.1103/PhysRevA.97.012122

24 Ben-asher, A., & **Moiseyev**, **N.** (2017). The boomerang effect in electron-hydrogen molecule scattering as determined by time-dependent calculations. *J. Chem. Phys.*, *146*(20). doi:10.1063/1.4983726

25 Bhattacharya, D., Ben-asher, A., Haritan, I., Pawlak, M., Landau, A., & **Moiseyev**, **N.** (2017). Polyatomic ab initio complex potential energy surfaces: Illustration of ultracold collisions. *J. Chem. Theory Comput.*, *13*(4), 1682–1690. doi:10.1021/acs.jctc.7b00083

26 Dreuw, A., Sommerfeld, T., **Moiseyev**, **N.**, & Koeppel, H. (2017). Electrons and nuclei in motion: Correlation and dynamics in molecules. *Chem. Phys.*, *482*(SI), 1–2. doi:10.1016/j.chemphys.2016.10.011

27 Haritan, I., & **Moiseyev**, **N.** (2017). On the calculation of resonances by analytic continuation of eigenvalues from the stabilization graph. *J. Chem. Phys.*, *147*(1). doi:10.1063/1.4989867

28 Klein, A., Shagam, Y., Skomorowski, W., Zuchowski, P. S., Pawlak, M., Janssen, L. M. C, **Moiseyev, N**., van de Meerakker, S.Y.T, van der Avoird, A., Koch, C.P., and Narevicius, E. (2017). Directly probing anisotropy in atom-molecule collisions through quantum scattering resonances. *Nat. Phys.*, *13*(1), 35–38. doi:10.1038/NPHYS3904

29 Martiskainen, H., & **Moiseyev**, **N.** (2017). Adiabatic perturbation theory for atoms and molecules in the low-frequency regime. *J. Chem. Phys.*, *147*(22). doi:10.1063/1.5001866

30 **Moiseyev**, **N.** (2017). Forces on nuclei moving on autoionizing molecular potential energy surfaces. *J. Chem. Phys.*, *146*(2). doi:10.1063/1.4973559

31 Pawlak, M., Shagam, Y., Klein, A., Narevicius, E., & **Moiseyev**, **N.** (2017). Adiabatic variational theory for cold atom-molecule collisions: Application to a metastable helium atom colliding with ortho- and para-hydrogen molecules. *J. Phys. Chem. A*, *121*(10), 2194–2198. doi:10.1021/acs.jpca.6b13038

32 Sindelka, M., & **Moiseyev**, **N.** (2017). Derivation of the one electron orbital which is associated with the best separable function of a given many electron reference state. *Chem. Phys.*, *482*(SI), 384–386. doi:10.1016/j.chemphys.2016.05.009

33 Sindelka, M., Santos, L. F., & **Moiseyev**, **N.** (2017). Excited-state quantum phase transitions studied from a non-hermitian perspective. *Phys. Rev. A*, *95*(1). doi:10.1103/PhysRevA.95.010103

34 Tripolt, R. .-., Haritan, I., Wambach, J., & Moiseyev, N. (2017). Threshold energies and poles for hadron physical problems by a model-independent universal algorithm. *Phys. Lett. B*, *774*, 411–416. doi:10.1016/j.physletb.2017.10.001

35 Ben-asher, A., & **Moiseyev**, **N.** (2016). On the equivalence of different methods for calculating resonances: From complex gaussian basis set to reflection-free complex absorbing potentials via the smooth exterior scaling transformation. *J. Chem. Theory Comput.*, *12*(6), 2542–2552. doi:10.1021/acs.jctc.6b00059

36 Doppler, J., Mailybaev, A. A., Bohm, J., Kuhl, U., Girschik, A., Libisch, F., Milburn, T.J., Rabl, P., **Moiseyev, N.,** Rotter, S. (2016). Dynamically encircling an exceptional point for asymmetric mode switching. *Nature 537*(7618), 76–79. doi:10.1038/nature18605

37 Goldzak, T., Gantz, L., Gilary, I., Bahir, G., & **Moiseyev**, **N.** (2016). Vertical currents due to interatomic coulombic decay in experiments with two coupled quantum wells. *Phys. Rev. B*, *93*(4). doi:10.1103/PhysRevB.93.045310

38 Landau, A., Haritan, I., Kapralova-zd'anska, P. R., & **Moiseyev**, **N.** (2016). Atomic and molecular complex resonances from real eigenvalues using standard (hermitian) electronic structure calculations. *J. Phys. Chem. A*, *120*(19), 3098–3108. doi:10.1021/acs.jpca.5b10685

39 Landau, A., & **Moiseyev**, **N.** (2016). Molecular resonances by removing complex absorbing potentials via pade; application to co- and n-2(-). *J. Chem. Phys.*, *145*(16). doi:10.1063/1.4965887

40 **Moiseyev**, **N.** (2016). Near-field measurements of the even-order harmonics undetectable in far-field measurements. *Phys. Rev. A*, *94*(6). doi:10.1103/PhysRevA.94.063846

41 Am-shallem, M., Kosloff, R., & **Moiseyev**, **N.** (2016). Parameter estimation in atomic spectroscopy using exceptional points. *Phys. Rev. A*, *93*(3). doi:10.1103/PhysRevA.93.032116

42 Goldzak, T., Gantz, L., Gilary, I., Bahir, G., & **Moiseyev**, **N.** (2015). Interatomic coulombic decay in two coupled quantum wells. *Phys. Rev. B*, *91*(16). doi:10.1103/PhysRevB.91.165312

43 Haritan, I., Gilary, I., Amitay, Z., & **Moiseyev**, **N.** (2015). Characteristic footprints of an exceptional point in the dynamics of li dimer under a laser field. *J. Chem. Phys.*, *143*(15). doi:10.1063/1.4931774

44 Landau, A., Haritan, I., Kapralova-zdanska, P. R., & **Moiseyev**, **N.** (2015). Advantages of complex scaling only the most diffuse basis functions in simultaneous description of both resonances and bound states. *Mol. Phys.*, *113*(19-20, SI), 3141–3146.

doi:10.1080/00268976.2015.1080872

45 Martiskainen, H., & **Moiseyev**, **N.** (2015). Perturbation theory for quasienergy floquet solutions in the low-frequency regime of the oscillating electric field. *Phys. Rev. A*, *91*(2). doi:10.1103/PhysRevA.91.023416

46 **Moiseyev**, **N.** (2015). Selection rules for harmonic generation in solids. *Phys. Rev. A*, *91*(5). doi:10.1103/PhysRevA.91.053811

47 Pawlak, M., & **Moiseyev**, **N.** (2015). Light-induced conical intersection effect enhancing the localization of molecules in optical lattices. *Phys. Rev. A*, *92*(2). doi:10.1103/PhysRevA.92.023403

48 Pawlak, M., Shagam, Y., Narevicius, E., & **Moiseyev**, **N.** (2015). Adiabatic theory for anisotropic cold molecule collisions. *J. Chem. Phys.*, *143*(7). doi:10.1063/1.4928690

49 Am-shallem, M., Kosloff, R., & **Moiseyev**, **N.** (2015). Exceptional points for parameter estimation in open quantum systems: Analysis of the bloch equations. *New J. Phys.*, *17*. doi:10.1088/1367-2630/17/11/113036

50 Berry, M. V., & Moiseyev, N. (2014). Superoscillations and supershifts in phase space: Wigner and husimi function interpretations. *J. Phys. A-Math. Theor.*, *47*(31). doi:10.1088/1751-8113/47/31/315203

51 Kapralova-zdanska, P. R., & **Moiseyev**, **N.** (2014). Helium in chirped laser fields as a time-asymmetric atomic switch. *J. Chem. Phys.*, *141*(1). doi:10.1063/1.4885136

52 Lee, T. E., Reiter, F., & **Moiseyev**, **N.** (2014). Entanglement and spin squeezing in non-hermitian phase transitions. *Phys. Rev. Lett.*, *113*(25). doi:10.1103/PhysRevLett.113.250401

53 Pawlak, M., Moiseyev, N., & Sadeghpour, H. R. (2014). Highly excited rydberg states of a rubidium atom: Theory versus experiments. *Phys. Rev. A*, *89*(4). doi:10.1103/PhysRevA.89.042506

54 Pawlak, M., & **Moiseyev**, **N.** (2014). Conditions for the applicability of the kramers-henneberger approximation for atoms in high-frequency strong laser fields. *Phys. Rev. A*, *90*(2). doi:10.1103/PhysRevA.90.023401

55 Balanarayan, P., & **Moiseyev**, **N.** (2013a). Chemistry in high-frequency strong laser fields: The story of hes molecule. *Mol. Phys.*, *111*(12-13, SI), 1814–1822. doi:10.1080/00268976.2013.798438

56 Balanarayan, P., & **Moiseyev**, **N.** (2013b). Linear stark effect for a sulfur atom in strong high-frequency laser fields. *Phys. Rev. Lett.*, *110*(25). doi:10.1103/PhysRevLett.110.253001

57 Gilary, I., Mailybaev, A. A., & **Moiseyev**, **N.** (2013). Time-asymmetric quantum-state-exchange mechanism. *Phys. Rev. A*, *88*(1). doi:10.1103/PhysRevA.88.010102

58 Graefe, E.-m., Mailybaev, A. A., & **Moiseyev**, **N.** (2013). Breakdown of adiabatic transfer of light in waveguides in the presence of absorption. *Phys. Rev. A*, *88*(3). doi:10.1103/PhysRevA.88.033842

59 Halasz, G. J., Vibok, A., **Moiseyev**, **N.**, & Cederbaum, L. S. (2013). Nuclear-wave-packet quantum interference in the intense laser dissociation of the d-2(+) molecule. *Phys. Rev. A*, *88*(4). doi:10.1103/PhysRevA.88.043413

60 **Moiseyev**, **N.** (2013). Sudden transition from a stable to an unstable harmonic trap as the adiabatic potential parameter is varied in a time-periodic harmonic trap. *Phys. Rev. A*, *88*(3). doi:10.1103/PhysRevA.88.034502

61 Uzdin, R., Dalla Torre, E. G., Kosloff, R., & **Moiseyev**, **N.** (2013). Effects of an exceptional point on the dynamics of a single particle in a time-dependent harmonic trap. *Phys. Rev. A*, *88*(2). doi:10.1103/PhysRevA.88.022505

62 Balanarayan, P., & **Moiseyev**, **N.** (2012). Strong chemical bond of stable he-2 in strong linearly polarized laser fields. *Phys. Rev. A*, *85*(3). doi:10.1103/PhysRevA.85.032516

63 Balanarayan, P., Sajeev, Y., & **Moiseyev**, **N.** (2012). Ab-initio complex molecular potential energy surfaces by the back-rotation transformation method. *Chem. Phys. Lett.*, *524*, 84–89. doi:10.1016/j.cplett.2011.12.028

64 Gilary, I., & **Moiseyev**, **N.** (2012). Asymmetric effect of slowly varying chirped laser pulses on the adiabatic state exchange of a molecule. *J. Phys. B-At. Mol. Opt. Phys.*, *45*(5). doi:10.1088/0953-4075/45/5/051002

65 Goldzak, T., Gilary, I., & **Moiseyev**, **N.** (2012). Resonance energies, lifetimes and complex energy potential curves from standard wave-packet calculations. *Mol. Phys.*, *110*(9-10, SI), 537–546. doi:10.1080/00268976.2012.662599

66 Halasz, G. J., Sindelka, M., **Moiseyev**, **N.**, Cederbaum, L. S., & Vibok, A. (2012). Light-induced conical intersections: Topological phase, wave packet dynamics, and molecular alignment. *J. Phys. Chem. A*, *116*(11), 2636–2643. doi:10.1021/jp206860p

67 Halasz, G. J., Vibok, A., **Moiseyev**, **N.**, & Cederbaum, L. S. (2012). Light-induced conical intersections for short and long laser pulses: Floquet and rotating wave approximations versus numerical exact results. *J. Phys. B-At. Mol. Opt. Phys.*, *45*(13). doi:10.1088/0953-4075/45/13/135101

68 Halasz, G. J., Vibok, A., Sindelka, M., Cederbaum, L. S., & **Moiseyev**, **N.** (2012). The effect of light-induced conical intersections on the alignment of diatomic molecules. *Chem. Phys.*, *399*, 146–150. doi:10.1016/j.chemphys.2011.06.038

69 **Moiseyev**, **N.**, & Gupta, A. K. (2012). Distinguishing between aligned and randomly oriented polar molecules by using a combination of strong laser field with a weak static field. *Mol. Phys.*, *110*(15-16), 1721–1728. doi:10.1080/00268976.2012.674565

70 Uzdin, R., Guenther, U., Rahav, S., & **Moiseyev**, **N.** (2012). Time-dependent hamiltonians with 100% evolution speed efficiency. *J. Phys. A-Math. Theor.*, *45*(41). doi:10.1088/1751-8113/45/41/415304

71 Uzdin, R., & **Moiseyev**, **N.** (2012a). Rapid azimuthal rotation in the hermitian and non-hermitian landau-zener problem. *J. Phys. A-Math. Theor.*, *45*(44, SI). doi:10.1088/1751-8113/45/44/444033

72 Uzdin, R., & **Moiseyev**, **N.** (2012b). Scattering from a waveguide by cycling a non-hermitian degeneracy. *Phys. Rev. A*, *85*(3). doi:10.1103/PhysRevA.85.031804

73 Alfassi, B., Peleg, o., **Moiseyev**, **N.**, & Segev, M. (2011b). Diverging rabi oscillations in subwavelength photonic lattices. *Phys. Rev. Lett.*, *106*(7). doi:10.1103/PhysRevLett.106.073901

74 Cartarius, H., & **Moiseyev**, **N.** (2011). Fingerprints of exceptional points in the survival probability of resonances in atomic spectra. *Phys. Rev. A*, *84*(1). doi:10.1103/PhysRevA.84.013419

75 Cederbaum, L. S., Chiang, Y.-c., Demekhin, P. V., & **Moiseyev**, **N.** (2011). Resonant auger decay of molecules in intense x-ray laser fields: Light-induced strong nonadiabatic effects. *Phys. Rev. Lett.*, *106*(12). doi:10.1103/PhysRevLett.106.123001

76 Cherkes, I., & **Moiseyev**, **N.** (2011). Electron relaxation in quantum dots by the interatomic coulombic decay mechanism. *Phys. Rev. B*, *83*(11).

doi:10.1103/PhysRevB.83.113303
77 Halasz, G. J., Vibok, A., Sindelka, M., **Moiseyev**, **N.**, & Cederbaum, L. S. (2011). Conical intersections induced by light: Berry phase and wavepacket dynamics. *J. Phys. B-At. Mol. Opt. Phys.*, *44*(17). doi:10.1088/0953-4075/44/17/175102
78 **Moiseyev**, **N.** (2011). Crossing rule for a pt-symmetric two-level time-periodic system. *Phys. Rev. A*, *83*(5). doi:10.1103/PhysRevA.83.052125
79 **Moiseyev**, **N.**, & Sindelka, M. (2011). The effect of polarization on the light-induced conical intersection phenomenon. *J. Phys. B-At. Mol. Opt. Phys.*, *44*(11). doi:10.1088/0953-4075/44/11/111002
80 Sindelka, M., **Moiseyev**, **N.**, & Cederbaum, L. S. (2011). Strong impact of light-induced conical intersections on the spectrum of diatomic molecules. *J. Phys. B-At. Mol. Opt. Phys.*, *44*(4). doi:10.1088/0953-4075/44/4/045603
81 Uzdin, R., Mailybaev, A., & **Moiseyev**, **N.** (2011). On the observability and asymmetry of adiabatic state flips generated by exceptional points. *J. Phys. A-Math. Theor.*, *44*(43). doi:10.1088/1751-8113/44/43/435302
82 Goldzak, T., Gilary, I., & **Moiseyev**, **N.** (2010). Evaluation of partial widths and branching ratios from resonance wave functions. *Phys. Rev. A*, *82*(5). doi:10.1103/PhysRevA.82.052105
83 Klaiman, S., & **Moiseyev**, **N.** (2010). The absolute position of a resonance peak. *J. Phys. B-At. Mol. Opt. Phys.*, *43*(18, SI). doi:10.1088/0953-4075/43/18/185205
84 Lefebvre, R., & Moiseyev, N. (2010). Localization of exceptional points with pade approximants. *J. Phys. B-At. Mol. Opt. Phys.*, *43*(9). doi:10.1088/0953-4075/43/9/095401
85 Pawlak, M., Bylicki, M., **Moiseyev**, **N.**, & Sindelka, M. (2010). Constructive and destructive interferences of stark resonances induced by an ac field in atomic hydrogen. *Phys. Rev. A*, *82*(6). doi:10.1103/PhysRevA.82.065402
86 Sajeev, Y., & **Moiseyev**, **N.** (2010). Enhancement of charge transition from donor to acceptor in organic and biochemical reactions by the intermediate-mode-assisted tunneling mechanism. *Chem. Phys.*, *370*(1-3), 115–118. doi:10.1016/j.chemphys.2010.01.008
87 Uzdin, R., & **Moiseyev**, **N.** (2010). Classical harmonic generation in rare gases. *Phys. Rev. A*, *81*(6). doi:10.1103/PhysRevA.81.063405
88 Cherkes, I., Klaiman, S., & **Moiseyev**, **N.** (2009). Spanning the hilbert space with an even tempered gaussian basis set. *Int. J. Quantum Chem.*, *109*(13), 2996–3002. doi:10.1002/qua.22090
89 Klaiman, S., & **Moiseyev**, **N.** (2009). Narrow resonances in complex potential energy surfaces. *J. Phys. B-At. Mol. Opt. Phys.*, *42*(4). doi:10.1088/0953-4075/42/4/044004
90 Lefebvre, R., Atabek, O., Sindelka, M., & Moiseyev, N. (2009). Resonance coalescence in molecular photodissociation. *Phys. Rev. Lett.*, *103*(12). doi:10.1103/PhysRevLett.103.123003
91 **Moiseyev**, **N.** (2009a). Feshbach resonances: The branching of quantum mechanics into hermitian and non-hermitian formalisms. *J. Phys. Chem. A*, *113*(26), 7660–7666. doi:10.1021/jp8110925
92 **Moiseyev**, **N.** (2009b). Suppression of feshbach resonance widths in two-dimensional waveguides and quantum dots: A lower bound for the number of bound states in the continuum. *Phys. Rev. Lett.*, *102*(16). doi:10.1103/PhysRevLett.102.167404

93 Peleg, o., Plotnik, Y., **Moiseyev**, **N.**, Cohen, O., & Segev, M. (2009). Self-trapped leaky waves and their interactions. *Phys. Rev. A*, *80*(4). doi:10.1103/PhysRevA.80.041801

94 Peleg, o., Segev, M., Bartal, G., Christodoulides, D. N., & **Moiseyev**, **N.** (2009). Nonlinear waves in subwavelength waveguide arrays: Evanescent bands and the "phoenix soliton". *Phys. Rev. Lett.*, *102*(16). doi:10.1103/PhysRevLett.102.163902

95 Sajeev, Y., Vysotskiy, V., Cederbaum, L. S., & Moiseyev, N. (2009). Continuum remover-complex absorbing potential: Efficient removal of the nonphysical stabilization points. *J. Chem. Phys.*, *131*(21). doi:10.1063/1.3271350

96 Fleischer, A., & **Moiseyev**, **N.** (2008). Amplification of high-order harmonics using weak perturbative high-frequency radiation. *Phys. Rev. A*, *77*(1). doi:10.1103/PhysRevA.77.010102

97 Gilary, I., Sajeev, Y., Ciappina, M. F., Croy, A., Goletz, C. M., Klaiman, S., ... **Moiseyev**, **N.** (2008). Suppression of photoionization by a static field. *Phys. Rev. Lett.*, *101*(16). doi:10.1103/PhysRevLett.101.163002

98 Klaiman, S., Guenther, U., & **Moiseyev**, **N.** (2008). Visualization of branch points in pt-symmetric waveguides. *Phys. Rev. Lett.*, *101*(8). doi:10.1103/PhysRevLett.101.080402

99 **Moiseyev**, **N.**, Sindelka, M., & Cederbaum, L. S. (2008). Laser-induced conical intersections in molecular optical lattices. *J. Phys. B-At. Mol. Opt. Phys.*, *41*(22). doi:10.1088/0953-4075/41/22/221001

100 Sajeev, Y., & Moiseyev, N. (2008). Theory of autoionization and photoionization in two-electron spherical quantum dots. *Phys. Rev. B*, *78*(7). doi:10.1103/PhysRevB.78.075316

101 Sajeev, Y., Sindelka, M., & Moiseyev, N. (2008). Hund's multiplicity rule: From atoms to quantum dots. *J. Chem. Phys.*, *128*(6). doi:10.1063/1.2837456

102 Gupta, A., & **Moiseyev**, **N.** (2007). Trapping of molecules by highly rotational excitations. *Chem. Phys.*, *338*(2-3), 113–120. doi:10.1016/j.chemphys.2007.04.026

103 Klaiman, S., **Moiseyev**, **N.**, & Sadeghpour, H. R. (2007). Interpretation of the fano lineshape reversal in quantum waveguides. *Phys. Rev. B*, *75*(11). doi:10.1103/PhysRevB.75.113305

104 **Moiseyev**, **N.**, Sindelka, M., & Cederbaum, L. S. (2007). Trapping of cold atoms in optical lattices by the quadrupole force. *Phys. Lett. A*, *362*(2-3), 215–220. doi:10.1016/j.physleta.2006.10.023

105 Sajeev, Y., & **Moiseyev**, **N.** (2007). Reflection-free complex absorbing potential for electronic structure calculations: Feshbach-type autoionization resonances of molecules. *J. Chem. Phys.*, *127*(3). doi:10.1063/1.2753485

106 Sindelka, M., & **Moiseyev**, **N.** (2007). Floquet perturbation theory: Applicability of the finite level approximation in different gauges. *Phys. Rev. A*, *76*(4). doi:10.1103/PhysRevA.76.043844

107 Wasserman, A., & **Moiseyev**, **N.** (2007). Hohenberg-kohn theorem for the lowest-energy resonance of unbound systems. *Phys. Rev. Lett.*, *98*(9). doi:10.1103/PhysRevLett.98.093003

108 Wei, Q., Kais, S., & **Moiseyev**, **N.** (2007). Frequency-dependent stabilization of he- by a superintense laser field. *Phys. Rev. A*, *76*(1). doi:10.1103/PhysRevA.76.013407

109 Caspary, M., & **Moiseyev**, **N.** (2006). Simultaneous propagation of different wavepackets driven by lasers. *Chem. Phys. Lett.*, *431*(1-3), 169–173. doi:10.1016/j.cplett.2006.09.028

110 Fleischer, A., & **Moiseyev**, **N.** (2006). Attosecond laser pulse synthesis using bichromatic high-order harmonic generation. *Phys. Rev. A*, *74*(5). doi:10.1103/PhysRevA.74.053806
111 Gilary, I., Kapralova-zd'anska, P. R., & **Moiseyev**, **N.** (2006). Ab initio calculation of harmonic generation spectra of helium using a time-dependent non-hermitian formalism. *Phys. Rev. A*, *74*(5). doi:10.1103/PhysRevA.74.052505
112 Klaiman, S., **Moiseyev**, **N.**, & Cederbaum, L. (2006). Exact solution of two bosons in a trap potential: Transition to fragmentation. *Phys. Rev. A*, *73*(1). doi:10.1103/PhysRevA.73.013622
113 **Moiseyev**, **N.**, & Seideman, T. (2006). Alignment of molecules by lasers: Derivation of the hamiltonian within the (t, t ') formalism. *J. Phys. B-At. Mol. Opt. Phys.*, *39*(9), L211–L216. doi:10.1088/0953-4075/39/9/L01
114 Sajeev, Y., Sindelka, M., & **Moiseyev**, **N.** (2006). Reflection-free complex absorbing potential for electronic structure calculations: Feshbach type autoionization resonance of helium. *Chem. Phys.*, *329*(1-3, SI), 307–312. doi:10.1016/j.chemphys.2006.08.008
115 Scheit, S., Meyer, H., **Moiseyev**, **N.**, & Cederbaum, L. (2006). On the unphysical impact of complex absorbing potentials on the hamiltonian and its remedy. *J. Chem. Phys.*, *124*(3). doi:10.1063/1.2158991
116 Sindelka, M., & **Moiseyev**, **N.** (2006). Theory of diatomic molecules in an external electromagnetic field from first quantum mechanical principles. *J. Phys. Chem. A*, *110*(16), 5561–5571. doi:10.1021/jp057120j
117 Sindelka, M., **Moiseyev**, **N.**, & Cederbaum, L. S. (2006). Dipole and quadrupole forces exerted on atoms in laser fields: The nonperturbative approach. *Phys. Rev. A*, *74*(5). doi:10.1103/PhysRevA.74.053420
118 Wei, Q., Kais, S., & **Moiseyev**, **N.** (2006). New stable multiply charged negative atomic ions in linearly polarized superintense laser fields. *J. Chem. Phys.*, *124*(20). doi:10.1063/1.2207619
119 Abramov, I., **Moiseyev**, **N.**, & Stoklitsky, A. (2005). Some problems of selection and evaluation of the martian suit enclosure concept. *Acta Astronaut.*, *57*(12), 901–909. doi:10.1016/j.actaastro.2005.05.001
120 Emmanouilidou, a., & **Moiseyev**, **N.** (2005). Stark and field-born resonances of an open square well in a static external electric field. *J. Chem. Phys.*, *122*(19). doi:10.1063/1.1897370
121 Fleischer, a., Gupta, A., & **Moiseyev**, **N.** (2005). Dynamical symmetry analysis of ionization and harmonic generation of atoms in bichromatic laser pulses. *Int. J. Quantum Chem.*, *103*(6), 824–840. doi:10.1002/qua.20541
122 Fleischer, a., & **Moiseyev**, **N.** (2005). Adiabatic theorem for non-hermitian time-dependent open systems. *Phys. Rev. A*, *72*(3). doi:10.1103/PhysRevA.72.032103
123 Gilary, I., Fleischer, a., & **Moiseyev**, **N.** (2005). Calculations of time-dependent observables in non-hermitian quantum mechanics: The problem and a possible solution. *Phys. Rev. A*, *72*(1, A-B). doi:10.1103/PhysRevA.72.012117
124 Lefebvre, R., Sindelka, M., & **Moiseyev**, **N.** (2005). Resonance positions and lifetimes for flexible complex absorbing potentials. *Phys. Rev. A*, *72*(5). doi:10.1103/PhysRevA.72.052704
125 **Moiseyev**, **N.**, & Cederbaum, L. (2005). Resonance solutions of the nonlinear schrodinger equation: Tunneling lifetime and fragmentation of trapped condensates. *Phys. Rev. A*, *72*(3). doi:10.1103/PhysRevA.72.033605

126 Osovski, S., & **Moiseyev**, **N.** (2005). Fingerprints of classical chaos in manipulation of cold atoms in the dynamical tunneling experiments. *Phys. Rev. A*, *72*(3). doi:10.1103/PhysRevA.72.033603
127 Shemer, O., Brisker, D., & **Moiseyev**, **N.** (2005). Optimal reflection-free complex absorbing potentials for quantum propagation of wave packets. *Phys. Rev. A*, *71*(3, A). doi:10.1103/PhysRevA.71.032716
128 Zdanska, P., & **Moiseyev**, **N.** (2005). Hartree-fock orbitals for complex-scaled configuration interaction calculation of highly excited feshbach resonances. *J. Chem. Phys.*, *123*(19). doi:10.1063/1.2110169
129 Baldea, I., Gupta, A., Cederbaum, L., & **Moiseyev**, **N.** (2004). High-harmonic generation by quantum-dot nanorings. *Phys. Rev. B*, *69*(24). doi:10.1103/PhysRevB.69.245311
130 Fleischer, a., Averbukh, V., & **Moiseyev**, **N.** (2004). Non-hermitian quantum mechanics versus the conventional quantum mechanics: Effect of the relative phasing of bichromatic fields on high-order harmonic generation. *Phys. Rev. A*, *69*(4). doi:10.1103/PhysRevA.69.043404
131 Gokhberg, K., Vorobeichik, I., Narevicius, E., & **Moiseyev**, **N.** (2004). Solution of the vector wave equation by the separable effective adiabatic basis set method. *J. Opt. Soc. Am. B-Opt. Phys.*, *21*(10), 1809–1817. doi:10.1364/JOSAB.21.001809
132 Klaiman, S., Gilary, I., & **Moiseyev**, **N.** (2004). Resonances for coulombic potentials by complex scaling and free-reflection complex-absorbing potentials. *Phys. Rev. A*, *70*(1). doi:10.1103/PhysRevA.70.012709
133 Lefebvre, R., & **Moiseyev**, **N.** (2004). Resonance poles in the complex-frequency domain for an oscillating barrier. *Phys. Rev. A*, *69*(6). doi:10.1103/PhysRevA.69.062105
134 **Moiseyev**, **N.**, Carr, L., Malomed, B., & Band, Y. (2004). Transition from resonances to bound states in nonlinear systems: Application to bose-einstein condensates. *J. Phys. B-At. Mol. Opt. Phys.*, *37*(9), L193–L200. doi:10.1088/0953-4075/37/9/L02
135 **Moiseyev**, **N.**, Scheit, S., & Cederbaum, L. (2004). Non-hermitian quantum mechanics: Wave packet propagation on autoionizing potential energy surfaces. *J. Chem. Phys.*, *121*(2), 722–725. doi:10.1063/1.1709867
136 Narevicius, E., **Moiseyev**, **N.**, Sadeghpour, H., & Cederbaum, L. (2004). Extremely narrow peaks in predissociation of sodium dimer due to rovibronic coupling. *J. Chem. Phys.*, *121*(8), 3527–3532. doi:10.1063/1.1773171
137 Scheit, S., Averbukh, V., Meyer, H., **Moiseyev**, **N.**, Santra, R., Sommerfeld, T., ... Cederbaum, L. (2004). On the interatomic coulombic decay in the ne dimer. *J. Chem. Phys.*, *121*(17), 8393–8398. doi:10.1063/1.1794654
138 Streltsov, A., Cederbaum, L., & **Moiseyev**, **N.** (2004). Ground-state fragmentation of repulsive bose-einstein condensates in double-trap potentials. *Phys. Rev. A*, *70*(5). doi:10.1103/PhysRevA.70.053607
139 Zavin, R., & **Moiseyev**, **N.** (2004). One-dimensional symmetric rectangular well: From bound to resonance via self-orthogonal virtual state. *J. Phys. A-Math. Gen.*, *37*(16), 4619–4628. doi:10.1088/0305-4470/37/16/011
140 Zdanska, P., & **Moiseyev**, **N.** (2004). Complex autocorrelation function and energy spectrum by classical trajectory calculations. *J. Chem. Phys.*, *121*(13), 6175–6185. doi:10.1063/1.1787489
141 Zdanska, P., Sadeghpour, H., & **Moiseyev**, **N.** (2004). Non-hermitian diabatic formulation of antiproton collision: Protonium formation. *J. Phys. B-At. Mol. Opt. Phys.*, *37*(3),

L35–L41. doi:10.1088/0953-4075/37/3/L01
142 Baer, R., Neuhauser, D., Zdanska, P., & **Moiseyev**, **N.** (2003). Ionization and high-order harmonic generation in aligned benzene by a short intense circularly polarized laser pulse. *Phys. Rev. A*, *68*(4, B). doi:10.1103/PhysRevA.68.043406
143 Barkay, H., Narevicius, E., & **Moiseyev**, **N.** (2003). Non-hermitian scattering theory: Resonant tunneling probability amplitude in a quantum dot. *Phys. Rev. B*, *67*(4). doi:10.1103/PhysRevB.67.045322
144 Brener, S., Ivanov, M., & **Moiseyev**, **N.** (2003). Impact of electron ionization on the generation of high-order harmonics from molecules. *Phys. Rev. A*, *68*(2). doi:10.1103/PhysRevA.68.023402
145 Cederbaum, L., Friedman, R., Ryaboy, V., & **Moiseyev**, **N.** (2003). Conical intersections and bound molecular states embedded in the continuum. *Phys. Rev. Lett.*, *90*(1). doi:10.1103/PhysRevLett.90.013001
146 Cederbaum, L., & **Moiseyev**, **N.** (2003). On the collapse and restoration of condensates in n dimensions in the mean-field approximation. *Isr. J. Chem.*, *43*(3-4), 267–277. Conference on Perspectives in Chemistry, Tel Aviv, ISRAEL, JUN 15-17, 2003. doi:10.1560/UVHD-ERLQ-3YGN-VPPH
147 Gilary, I., **Moiseyev**, **N.**, Rahav, S., & Fishman, S. (2003). Trapping of particles by lasers: The quantum kapitza pendulum. *J. Phys. A-Math. Gen.*, *36*(25), L409–L415. doi:10.1088/0305-4470/36/25/101
148 Gupta, A., Alon, O., & **Moiseyev**, **N.** (2003). Generation and control of high-order harmonics by the interaction of an infrared laser with a thin graphite layer. *Phys. Rev. B*, *68*(20). doi:10.1103/PhysRevB.68.205101
149 **Moiseyev**, **N.**, & Lein, M. (2003). Non-hermitian quantum mechanics for high-order harmonic generation spectra. *J. Phys. Chem. A*, *107*(37), 7181–7188. doi:10.1021/jp034390y
150 **Moiseyev**, **N.**, & Narevich, R. (2003). The resonance phenomena associated with the time asymmetry in non-hermitian quantum mechanics. *Int. J. Theor. Phys.*, *42*(10), 2131–2143. 5th Workshop on Time Asymmetric Quantum Theory, JACA, SPAIN, MAY-JUN -, 2001. doi:10.1023/B:IJTP.0000005951.03650.60
151 Narevicius, E., Serra, P., & **Moiseyev**, **N.** (2003). Critical phenomena associated with self-orthogonality in non-hermitian quantum mechanics. *Europhys. Lett.*, *62*(6), 789–794. doi:10.1209/epl/i2003-00441-9
152 Vorobeichik, I., Narevicius, E., Rosenblum, G., Orenstein, M., & **Moiseyev**, **N.** (2003). Electromagnetic realization of orders-of-magnitude tunneling enhancement in a double well system. *Phys. Rev. Lett.*, *90*(17). doi:10.1103/PhysRevLett.90.176806
153 Zdanska, P., Averbukh, V., & **Moiseyev**, **N.** (2003). High harmonic generation spectra of aligned benzene in circular polarized laser field. *J. Chem. Phys.*, *118*(19), 8726–8738. doi:10.1063/1.1566737
154 Averbukh, V., Alon, O., & **Moiseyev**, **N.** (2002). Stability and instability of dipole selection rules for atomic high-order-harmonic-generation spectra in two-beam setups. *Phys. Rev. A*, *65*(6). doi:10.1103/PhysRevA.65.063402
155 Averbukh, V., Osovski, S., & **Moiseyev**, **N.** (2002). Controlled tunneling of cold atoms: From full suppression to strong enhancement. *Phys. Rev. Lett.*, *89*(25). doi:10.1103/PhysRevLett.89.253201
156 Friedman, R., Podzielinski, I., Cederbaum, L., Ryaboy, V., & **Moiseyev**, **N.** (2002).

Vibronic resonances arising from conically intersecting electronic states. *J. Phys. Chem. A*, *106*(17), 4320–4335. doi:10.1021/jp0136922

157 Gilary, I., & **Moiseyev**, **N.** (2002). Alternative representation of time-dependent hamiltonians with application to laser-driven systems. *Phys. Rev. A*, *66*(6). doi:10.1103/PhysRevA.66.063415

158 Kenis, A., Cederbaum, L., & **Moiseyev**, **N.** (2002). Enhancement of power transfer in periodic array of optical waveguides via intermediate bloch states. *IEEE J. Quantum Electron.*, *38*(12), 1638–1646. doi:10.1109/JQE.2002.805104

159 Averbukh, V., Alon, O., & **Moiseyev**, **N.** (2001). High-order harmonic generation by molecules of discrete rotational symmetry interacting with circularly polarized laser field. *Phys. Rev. A*, *64*(3). doi:10.1103/PhysRevA.64.033411

160 Barkay, H., & **Moiseyev**, **N.** (2001). Complex density probability in non-hermitian quantum mechanics: Interpretation and a formula for resonant tunneling probability amplitude. *Phys. Rev. A*, *64*(4). doi:10.1103/PhysRevA.64.044702

161 Kenis, A., Vorobeichik, I., Orenstein, M., & **Moiseyev**, **N.** (2001). Non-evanescent adiabatic directional coupler. *IEEE J. Quantum Electron.*, *37*(10), 1321–1328. doi:10.1109/3.952544

162 **Moiseyev**, **N.**, & Gluck, M. (2001). Non-hermitian delocalization from hermitian hamiltonians. *Phys. Rev. E*, *63*(4, 1). doi:10.1103/PhysRevE.63.041103

163 **Moiseyev**, **N.**, & Lefebvre, R. (2001). Continuity conditions for the wave function of a particle with a position-dependent mass in a laser field. *Phys. Rev. A*, *64*(5). doi:10.1103/PhysRevA.64.052711

164 **Moiseyev**, **N.**, Santra, R., Zobeley, J., & Cederbaum, L. (2001). Fingerprints of the nodal structure of autoionizing vibrational wave functions in clusters: Interatomic coulombic decay in ne dimer. *J. Chem. Phys.*, *114*(17), 7351–7360. doi:10.1063/1.1361070

165 Serra, P., Kais, S., & **Moiseyev**, **N.** (2001). Crossover phenomena and resonances in quantum systems. *Phys. Rev. A*, *64*(6). doi:10.1103/PhysRevA.64.062502

166 Zdanska, P., & **Moiseyev**, **N.** (2001). Phases and amplitudes of recurrences in autocorrelation function by a simple classical trajectory method. *J. Chem. Phys.*, *115*(23), 10608–10620

167 Alon, O., Averbukh, V., & **Moiseyev**, **N.** (2000). High harmonic generation of soft x-rays by carbon nanotubes. *Phys. Rev. Lett.*, *85*(24), 5218–5221. doi:10.1103/PhysRevLett.85.5218

168 Kenis, A., Vorobeichik, I., & **Moiseyev**, **N.** (2000). Analysis of an intermediate-mode-assisted directional coupler using bloch theory. *IEEE J. Quantum Electron.*, *36*(5), 563–573. doi:10.1109/3.842098

169 **Moiseyev**, **N.** (2000). Comment on calculations of excited states by the density functional theory. *Chem. Phys. Lett.*, *321*(5-6), 469–472. doi:10.1016/S0009-2614(00)00342-0

170 Narevicius, E., & **Moiseyev**, **N.** (2000a). Non-hermitian formulation of interference effect in scattering experiments. *J. Chem. Phys.*, *113*(15), 6088–6095. doi:10.1063/1.1308092

171 Narevicius, E., & **Moiseyev**, **N.** (2000b). Trapping of an electron due to molecular vibrations. *Phys. Rev. Lett.*, *84*(8), 1681–1684. doi:10.1103/PhysRevLett.84.1681

172 Santra, R., Zobeley, J., Cederbaum, L., & **Moiseyev**, **N.** (2000). Interatomic coulombic decay in van der waals clusters and impact of nuclear motion. *Phys. Rev. Lett.*, *85*(21), 4490–4493. doi:10.1103/PhysRevLett.85.4490

173 Alacid, M., Leforestier, C., & **Moiseyev**, **N.** (1999). Bound and resonance states by a time-independent filter diagonalization method for large hamiltonian systems. *Chem. Phys. Lett.*, *305*(3-4), 258–262. doi:10.1016/S0009-2614(99)00371-1

174 Averbukh, V., Alon, O., & **Moiseyev**, **N.** (1999). Crossed-beam experiment: High-order harmonic generation and dynamical symmetry. *Phys. Rev. A*, *60*(3), 2585–2586. doi:10.1103/PhysRevA.60.2585
175 Averbukh, V., **Moiseyev**, **N.**, Schmelcher, P., & Cederbaum, L. (1999). Transition from rydberg to giant-dipole-moment states of hydrogen atoms in crossed fields: A suggestion for an experiment. *Phys. Rev. A*, *59*(5), 3695–3700. doi:10.1103/PhysRevA.59.3695
176 Friedman, R., Ryaboy, V., & **Moiseyev**, **N.** (1999). Scattering matrix determination by asymptotic analysis of complex scaled resonance wave functions: Model cl+h-2 nonadiabatic dynamics. *J. Chem. Phys.*, *111*(16), 7187–7196. doi:10.1063/1.480047
177 **Moiseyev**, **N.**, & Cederbaum, L. (1999). Suppression of electron correlation and of autoionization by strong laser fields. *J. Phys. B-At. Mol. Opt. Phys.*, *32*(12), L279–L284. doi:10.1088/0953-4075/32/12/104
178 **Moiseyev**, **N.**, Gluck, M., & Korsch, H. (1999). Stark resonances in dc fields from short time propagation of the field-free hamiltonian. *Chem. Phys. Lett.*, *303*(1-2), 22–26. doi:10.1016/S0009-2614(99)00107-4
179 Vorobeichik, I., & **Moiseyev**, **N.** (1999a). Revealing broad overlapping resonances by strong laser fields. *Phys. Rev. A*, *59*(2), 1699–1702. doi:10.1103/PhysRevA.59.1699
180 Vorobeichik, I., & **Moiseyev**, **N.** (1999b). Tunneling control by high-frequency driving. *Phys. Rev. A*, *59*(3), 2511–2514. doi:10.1103/PhysRevA.59.2511
181 Alon, O., Averbukh, V., & **Moiseyev**, **N.** (1998). Selection rules for the high harmonic generation spectra. *Phys. Rev. Lett.*, *80*(17), 3743–3746. doi:10.1103/PhysRevLett.80.3743
182 Averbukh, V., & **Moiseyev**, **N.** (1998). Classical versus quantum harmonic-generation spectrum of a driven anharmonic oscillator in the high-frequency regime. *Phys. Rev. A*, *57*(2), 1345–1354. doi:10.1103/PhysRevA.57.1345
183 Gluck, M., Kolovsky, A., Korsch, H., & **Moiseyev**, **N.** (1998). Calculation of wannier-bloch and wannier-stark states. *Eur. Phys. J. D*, *4*(3), 239–246. doi:10.1007/s100530050205
184 Gluck, M., Korsch, H., & **Moiseyev**, **N.** (1998). Selective quasienergies from short time cross-correlation probability amplitudes by the filter-diagonalization method. *Phys. Rev. E*, *58*(1), 376–381. doi:10.1103/PhysRevE.58.376
185 **Moiseyev**, **N.** (1998a). Derivations of universal exact complex absorption potentials by the generalized complex coordinate method. *J. Phys. B-At. Mol. Opt. Phys.*, *31*(7), 1431–1441. doi:10.1088/0953-4075/31/7/009
186 **Moiseyev**, **N.**, & Lefebvre, R. (1998). Reciprocity relations for time-independent transition probabilities of time-dependent hamiltonians. *Phys. Rev. A*, *58*(5), 4218–4221. doi:10.1103/PhysRevA.58.4218
187 Narevicius, E., & **Moiseyev**, **N.** (1998a). Fingerprints of broad overlapping resonances in the e+h-2 cross section. *Phys. Rev. Lett.*, *81*(11), 2221–2224. doi:10.1103/PhysRevLett.81.2221
188 Narevicius, E., & **Moiseyev**, **N.** (1998b). Structured photo-absorption spectra of arhcl: Fingerprints of overlapping broad resonances. *Chem. Phys. Lett.*, *287*(3-4), 250–254. doi:10.1016/S0009-2614(98)00175-4
189 Schoendorff, J., Korsch, H., & **Moiseyev**, **N.** (1998). Semiclassical quantization of a system with mixed regular/chaotic dynamics. *Europhys. Lett.*, *44*(3), 290–295. doi:10.1209/epl/i1998-00472-2
190 Vorobeichik, I., Lefebvre, R., & **Moiseyev**, **N.** (1998). Field-induced barrier transparency.

Europhys. Lett., *41*(2), 111–116. doi:10.1209/epl/i1998-00117-6

191 Vorobeichik, I., & **Moiseyev**, **N.** (1998). State-to-state transition probabilities for time-dependent hamiltonians using complex absorbing potentials. *J. Phys. B-At. Mol. Opt. Phys.*, *31*(4), 645–656. doi:10.1088/0953-4075/31/4/015

192 Vorobeichik, I., Orenstein, M., & **Moiseyev**, **N.** (1998). Intermediate-mode-assisted optical directional couplers via embedded periodic structure. *IEEE J. Quantum Electron.*, *34*(9), 1772–1781. doi:10.1109/3.709596

193 Zavin, R., Vorobeichik, I., & **Moiseyev**, **N.** (1998). Motion of wave-packets using the smooth-exterior-scaling complex potential. *Chem. Phys. Lett.*, *288*(2-4), 413–417. doi:10.1016/S0009-2614(98)00334-0

194 Althorpe, S., Kouri, D., Hoffman, D., & **Moiseyev**, **N.** (1997). A time-independent wavepacket approach to the (t,t')-method for treating time-dependent hamiltonian systems. *Chem. Phys.*, *217*(2-3), 289–296. doi:10.1016/S0301-0104(97)00062-1

195 Jungwirth, P., Schmidt, B., & **Moiseyev**, **N.** (1997). Vibrationally resolved spectra from short-time quantum molecular dynamics by the filter-diagonalization method. *Chem. Phys. Lett.*, *280*(3-4), 177–184. doi:10.1016/S0009-2614(97)01104-4

196 **Moiseyev**, **N.** (1997). Localization of multiphoton ionization/dissociation resonance wave functions in ac fields. *Int. J. Quantum Chem.*, *63*(1), 279–285

197 **Moiseyev**, **N.**, Rucker, J., & Glickman, M. (1997). Reduction of ferric iron could drive hydrogen tunneling in lipoxygenase catalysis: Implications for enzymatic and chemical mechanisms. *J. Am. Chem. Soc.*, *119*(17), 3853–3860. doi:10.1021/ja9632825

198 **Moiseyev**, **N.**, & Weinhold, F. (1997). High harmonic generation spectra of neutral helium by the complex-scaled (t,t') method: Role of dynamical electron correlation. *Phys. Rev. Lett.*, *78*(11), 2100–2103. doi:10.1103/PhysRevLett.78.2100

199 Narevicius, E., Neuhauser, D., Korsch, H., & **Moiseyev**, **N.** (1997). Resonances from short time complex-scaled cross-correlation probability amplitudes by the filter-diagonalization method. *Chem. Phys. Lett.*, *276*(3-4), 250–254. doi:10.1016/S0009-2614(97)00867-1

200 Pang, J., Neuhauser, D., & **Moiseyev**, **N.** (1997). Photoabsorption probability for a system governed by a time-dependent hamiltonian through the (t, t') formalism. *J. Chem. Phys.*, *106*(17), 6839–6847. doi:10.1063/1.474057

201 Vorobeichik, I., **Moiseyev**, **N.**, & Miller, W. (1997). On the reflection probability in elastic scattering processes as obtained via the absorbing boundary conditions discrete variable representation (abc-dvr) green function formalism. *Chem. Phys. Lett.*, *275*(5-6), 491–493. doi:10.1016/S0009-2614(97)00781-1

202 Vorobeichik, I., **Moiseyev**, **N.**, & Neuhauser, D. (1997). Effect of the second-derivative paraxial term in the scalar maxwell's equation on amplitude losses and reflections in optical fibers. *J. Opt. Soc. Am. B-Opt. Phys.*, *14*(5), 1207–1212. doi:10.1364/JOSAB.14.001207

203 Vorobeichik, I., **Moiseyev**, **N.**, Neuhauser, D., Orenstein, M., & Peskin, U. (1997). Calculation of light distribution in optical devices by a global solution of an inhomogeneous scalar wave equation. *IEEE J. Quantum Electron.*, *33*(7), 1236–1244. doi:10.1109/3.594890

204 Mandelshtam, V., & **Moiseyev**, **N.** (1996). Complex scaling of ab initio molecular potential surfaces. *J. Chem. Phys.*, *104*(16), 6192–6195. doi:10.1063/1.471282

205 Moiseyev, N. (1996). Consistent approximation in godunov-type difference schemes for one-dimensional problems of gas dynamics. *Comput. Math. Math. Phys.*, *36*(1), 125–126

206 Alon, O., & **Moiseyev**, **N.** (1995). Broken dynamical symmetry condition to control a chemical reaction by the complex coordinate (t, t') method. *Chem. Phys.*, *196*(3), 499–510. doi:10.1016/0301-0104(95)00127-A

207 Alon, O., **Moiseyev**, **N.**, & Peres, A. (1995). Infinite matrices may violate the associative law. *J. Phys. A-Math. Gen.*, *28*(6), 1765–1769. doi:10.1088/0305-4470/28/6/027

208 Averbukh, V., & **Moiseyev**, **N.** (1995). Cutoff in molecular harmonic-generation spectra resulting from classical chaotic dynamics. *Phys. Rev. A*, *51*(5), 3911–3915. doi:10.1103/PhysRevA.51.3911

209 Averbukh, V., **Moiseyev**, **N.**, Mirbach, B., & Korsch, H. (1995). Dynamical tunneling through a chaotic region. *Z. Phys. D-Atoms Mol. Clusters*, *35*(4), 247–256. doi:10.1007/BF01745527

210 Lefebvre, R., Ryaboy, V., & **Moiseyev**, **N.** (1995). Resonance and reaction. *Theochem-J. Mol. Struct.*, *332*(3), 209–215. doi:10.1016/0166-1280(94)03949-L

211 Leforestier, C., Yamashita, K., & **Moiseyev**, **N.** (1995). Transition state resonances by complex scaling: A three-dimensional study of ClHCl. *J. Chem. Phys.*, *103*(19), 8468–8476. doi:10.1063/1.470157

212 **Moiseyev**, **N.** (1995). Cumulative reaction probability from time-independent scattering-theory. *J. Chem. Phys.*, *103*(8), 2970–2973. doi:10.1063/1.470484

213 **Moiseyev**, **N.**, Alon, O., & Ryaboy, V. (1995). The (t,t') method and gauge transformations for two electronic potential surfaces: An application to the partial width of $h2^{+}$. *J. Phys. B-At. Mol. Opt. Phys.*, *28*(13), 2611–2620. doi:10.1088/0953-4075/28/13/014

214 **Moiseyev**, **N.**, Chrysos, M., Atabek, O., & Lefebvre, R. (1995). Harmonic-generation in molecular-systems - application to h^{+}_{2} in intense laser fields. *J. Phys. B-At. Mol. Opt. Phys.*, *28*(10), 2007–2020. doi:10.1088/0953-4075/28/10/013

215 **Moiseyev**, **N.**, Chrysos, M., & Lefebvre, R. (1995). The solution of the time-dependent Shrodinger equation by the (t,t') method - application to intense field molecular photodissociation. *J. Phys. B-At. Mol. Opt. Phys.*, *28*(13), 2599–2609. doi:10.1088/0953-4075/28/13/013

216 Ryaboy, V., & **Moiseyev**, **N.** (1995). Three-dimensional study of predissociation resonances by the complex scaled discrete variable representation method: HCO/DCO. *J. Chem. Phys.*, *103*(10), 4061–4068. doi:10.1063/1.469592

217 Vorobeichik, I., Peskin, U., & **Moiseyev**, **N.** (1995). Modal losses and design of modal irradiance patterns in an optical-fiber by the complex scaled (t,t') method. *J. Opt. Soc. Am. B-Opt. Phys.*, *12*(6), 1133–1141. doi:10.1364/JOSAB.12.001133

218 Lefebvre, R., **Moiseyev**, **N.**, & Ryaboy, V. (1994). Thermal-reaction rates with a 2-point flux-flux correlation-function. *Int. J. Quantum Chem.*, *51*(6), 465–472. 1st Congress of the International-Society-for-Theoretical-Chemical-Physics, GIRONA, SPAIN, JUN 28-JUL 03, 1993. doi:10.1002/qua.560510613

219 Lipkin, N., Gerber, R., **Moiseyev**, **N.**, & Nathanson, G. (1994). Atom scattering studies of liquid structure and dynamics: Collisions of Xe with a model of squalane. *J. Chem. Phys.*, *100*(11), 8408–8417. doi:10.1063/1.466788

220 Mandelshtam, V., Taylor, H., Ryaboy, V., & **Moiseyev**, **N.** (1994). Stabilization theory for computing energies and widths of resonances. *Phys. Rev. A*, *50*(3), 2764–2766. doi:10.1103/PhysRevA.50.2764

221 **Moiseyev**, **N.** (1994). The solution of the time-dependent schrodinger-equation by the (t,t') method - complex scaled multiphoton ionization dissociation resonance wave-functions are square integrable. *J. Chem. Phys.*, *101*(11), 9716–9718. doi:10.1063/1.467937

222 **Moiseyev**, **N.**, Korsch, H., & Mirbach, B. (1994). Classical and quantum chaos in molecular rotational excitation by ac electric fields. *Z. Phys. D-Atoms Mol. Clusters*, *29*(2), 125–138. doi:10.1007/BF01437760

223 Peskin, U., Alon, O., & **Moiseyev**, **N.** (1994). The solution of the time-dependent schrodinger-equation by the (t,t') method - multiphoton ionization/dissociation probabilities in different gauges of the electromagnetic potentials. *J. Chem. Phys.*, *100*(10), 7310–7318. doi:10.1063/1.466875

224 Peskin, U., Kosloff, R., & **Moiseyev**, **N.** (1994). The solution of the time-dependent schrodinger-equation by the (t,t')-method - the use of global polynomial propagators for time-dependent hamiltonians. *J. Chem. Phys.*, *100*(12), 8849–8855. doi:10.1063/1.466739

225 Peskin, U., & **Moiseyev**, **N.** (1994). Time-independent scattering-theory for time-periodic hamiltonians - formulation and complex-scalign calculations of above-threshold-ionization spectra. *Phys. Rev. A*, *49*(5, A), 3712–3728. doi:10.1103/PhysRevA.49.3712

226 Rom, N., & **Moiseyev**, **N.** (1994). Transition state resonances by complex scaling: H + h_2 and h + MuH. *J. Phys. Chem.*, *98*(13), 3398–3406. doi:10.1021/j100064a021

227 Ryaboy, V., **Moiseyev**, **N.**, Mandelshtam, V., & Taylor, H. (1994). Resonance positions and widths by complex scaling and modified stabilization methods: Van der Waals complex NeICl. *J. Chem. Phys.*, *101*(7), 5677–5682. doi:10.1063/1.467354

228 Bental, N., **Moiseyev**, **N.**, & Beswick, A. (1993). The effect of hamiltonian symmetry on generation of odd and even harmonics. *J. Phys. B-At. Mol. Opt. Phys.*, *26*(18), 3017–3024. doi:10.1088/0953-4075/26/18/012

229 Bental, N., **Moiseyev**, **N.**, Fishman, S., Bensch, F., & Korsch, H. (1993). Weak localization in a chaotic periodically driven anharmonic-oscillator. *Phys. Rev. E*, *47*(3), 1646–1649. doi:10.1103/PhysRevE.47.1646

230 Bental, N., **Moiseyev**, **N.**, & Kosloff, R. (1993a). Creation of discrete quasi-energy resonance states in strong electromagnetic-fields. *J. Chem. Phys.*, *98*(12), 9610–9617. doi:10.1063/1.464391

231 Bental, N., **Moiseyev**, **N.**, & Kosloff, R. (1993b). Harmonic generation in ionizing systems by the complex scaled adiabatic-switch method. *Phys. Rev. A*, *48*(3), 2437–2442. doi:10.1103/PhysRevA.48.2437

232 Bental, N., **Moiseyev**, **N.**, Kosloff, R., & Cerjan, C. (1993). Harmonic-generation in ionizing systems by the time-dependent complex coordinate floquet method. *J. Phys. B-At. Mol. Opt. Phys.*, *26*(8), 1445–1461. doi:10.1088/0953-4075/26/8/012

233 Lefebvre, R., Ryaboy, V., & **Moiseyev**, **N.** (1993). Quantum-mechanical thermal rate constants using flux-flux correlation-functions and pade analytical continuation procedures. *J. Chem. Phys.*, *98*(11), 8601–8605. doi:10.1063/1.464520

234 Lipkin, N., **Moiseyev**, **N.**, & Leforestier, C. (1993). A three-dimensional study of NeICl predissociation resonances by the complex scaled discrete variable representation method. *J. Chem. Phys.*, *98*(3), 1888–1901. doi:10.1063/1.464223

235 Peskin, U., & **Moiseyev**, **N.** (1993a). The complex coordinate scattering-theory and its application to the study of the surface asymmetry effect in Helium diffraction from Copper. *Int. J. Quantum Chem.*, *46*(3), 343–363. doi:10.1002/qua.560460303

236 Peskin, U., & **Moiseyev**, **N.** (1993b). The solution of the time-dependent schrodinger-equation by the (t,t') method - theory, computational algorithm and applications. *J. Chem. Phys.*, *99*(6), 4590–4596. doi:10.1063/1.466058

237 Rom, N., & **Moiseyev**, **N.** (1993). Absorbing boundary conditions by the partial integration exterior scaling method. *J. Chem. Phys.*, *99*(10), 7703–7708. doi:10.1063/1.465699

238 Rom, N., Ryaboy, V., & **Moiseyev**, **N.** (1993a). Cumulative reaction probability by the complex coordinate scattering-theory. *J. Chem. Phys.*, *98*(8), 6327–6331. doi:10.1063/1.464826

239 Rom, N., Ryaboy, V., & **Moiseyev**, **N.** (1993b). Thermal rate constants of multimode systems for the price of one - Aziridine. *Chem. Phys. Lett.*, *204*(1-2), 175–182. doi:10.1016/0009-2614(93)85624-W

240 Ryaboy, V., Lefebvre, R., & **Moiseyev**, **N.** (1993). Cumulative reaction probabilities using Pade analytical continuation procedures. *J. Chem. Phys.*, *99*(5), 3509–3515. doi:10.1063/1.466173

241 Ryaboy, V., & **Moiseyev**, **N.** (1993). Cumulative reaction probability from Siegert eigenvalues - model studies. *J. Chem. Phys.*, *98*(12), 9618–9623. doi:10.1063/1.464392

242 Alon, O., & **Moiseyev**, **N.** (1992). Balslev-combes theorem within the framework of the finite-matrix approximation. *Phys. Rev. A*, *46*(7), 3807–3811. doi:10.1103/PhysRevA.46.3807

243 Bental, N., **Moiseyev**, **N.**, & Korsch, H. (1992). Quantum versus classical dynamics in a periodically driven anharmonic-oscillator. *Phys. Rev. A*, *46*(3), 1669–1672. doi:10.1103/PhysRevA.46.1669

244 Lipkin, N., Lefebvre, R., & **Moiseyev**, **N.** (1992). Resonances by complex nonsimilarity transformations of the hamiltonian. *Phys. Rev. A*, *45*(7, A), 4553–4564. doi:10.1103/PhysRevA.45.4553

245 Lipkin, N., **Moiseyev**, **N.**, & Certain, P. (1992). Resonances of triatomic vanderwaals molecules by the complex discrete variable representation. *Theor. Chim. Acta*, *82*(1-2), 47–56. doi:10.1007/BF01113129

246 Peskin, U., & **Moiseyev**, **N.** (1992a). Gas/surface complex coordinate scattering theory: HD/ag(111), HD/pt(111) rotationally inelastic transition intensities. *J. Chem. Phys.*, *96*(3), 2347–2355. doi:10.1063/1.462031

247 Peskin, U., & **Moiseyev**, **N.** (1992b). The complex coordinate scattering theory and the Kohn variational method: A general formulation and application to long range potentials. *J. Chem. Phys.*, *97*(9), 6443–6450. doi:10.1063/1.463702

248 Peskin, U., & **Moiseyev**, **N.** (1992c). The complex coordinate scattering theory: Broken inversion symmetry of corrugated surfaces in Helium diffraction from Cu(115). *J. Chem. Phys.*, *97*(4), 2804–2808. doi:10.1063/1.463072

249 Rom, N., **Moiseyev**, **N.**, & Lefebvre, R. (1992). Thermal rate constants in collinear atom transfer-reactions by optimizing the position of the reactants products dividing surface. *J. Chem. Phys.*, *96*(11), 8307–8313. doi:10.1063/1.462334

250 Bensch, F., Korsch, H., & **Moiseyev**, **N.** (1991a). Decay dynamics of a time-periodic quantum system. *J. Phys. B-At. Mol. Opt. Phys.*, *24*(6), 1321–1341. doi:10.1088/0953-4075/24/6/020

251 Bensch, F., Korsch, H., & **Moiseyev**, **N.** (1991b). Simple method for constructing the ionization spectra of driven time-periodic hamiltonians. *Phys. Rev. A*, *43*(9), 5145–5148. doi:10.1103/PhysRevA.43.5145

252 Bental, N., & **Moiseyev**, **N.** (1991). Survival probabilities of complex gaussian wavepackets in chaotic and regular systems by the lanczos recursion method. *J. Phys. A-Math. Gen.*, *24*(15), 3593–3603. doi:10.1088/0305-4470/24/15/026

253 Bental, N., **Moiseyev**, **N.**, Leforestier, C., & Kosloff, R. (1991). Positions, lifetimes, and partial widths of metastable quasi-energy states by solving the time-dependent complex-scaled schrodinger-equation. *J. Chem. Phys.*, *94*(11), 7311–7318. doi:10.1063/1.460215

254 Engdahl, E., Maniv, T., & **Moiseyev**, **N.** (1991). Gas-surface scattering cross-section by the complex coordinate method. *J. Chem. Phys.*, *94*(9), 6330. doi:10.1063/1.460421

255 Engdahl, E., **Moiseyev**, **N.**, & Maniv, T. (1991). A theory of he diffraction and resonance scattering from cu(115) by the complex coordinate method. *J. Chem. Phys.*, *94*(2), 1636–1642. doi:10.1063/1.459967

256 **Moiseyev**, **N.** (1991a). New trends in quantum-chemistry - foreword. *Isr. J. Chem.*, *31*(4), 273. doi:10.1002/ijch.199100031

257 **Moiseyev**, **N.** (1991b). Resonances, cross-sections, and partial widths by the complex coordinate method. *Isr. J. Chem.*, *31*(4), 311–322. doi:10.1002/ijch.199100036

258 **Moiseyev**, **N.**, & Korsch, H. (1991). Multiphoton dissociation or ionization - annihilation of discrete quasi-energy states in strong electromagnetic-fields. *Phys. Rev. A*, *44*(11), 7797–7803. doi:10.1103/PhysRevA.44.7797

259 Rom, N., Lipkin, N., & **Moiseyev**, **N.** (1991). Optical potentials by the complex coordinate method. *Chem. Phys.*, *151*(2), 199–204. doi:10.1016/0301-0104(91)80101-M

260 Rom, N., **Moiseyev**, **N.**, & Lefebvre, R. (1991). Tunneling rates in a 2-dimensional symmetrical double-well potential surface by the exterior scaling procedure. *J. Chem. Phys.*, *95*(5), 3562–3569. doi:10.1063/1.460858

261 Csoto, a., Gyarmati, B., Kruppa, a., Pal, K., & **Moiseyev**, **N.** (1990). Back-rotation of the wave function in the complex scaling method. *Phys. Rev. A*, *41*(7), 3469–3477. doi:10.1103/PhysRevA.41.3469

262 Lefebvre, R., & **Moiseyev**, **N.** (1990a). Artificial resonance procedure for the determination of quantum mechanical rate constants in the tunneling regime. *J. Chem. Phys.*, *93*(10), 7173–7178. doi:10.1063/1.459441

263 Lefebvre, R., & **Moiseyev**, **N.** (1990b). Automerization of cyclobutadiene. *J. Am. Chem. Soc.*, *112*(13), 5052–5054. doi:10.1021/ja00169a008

264 Lipkin, N., **Moiseyev**, **N.**, & Leforestier, C. (1990). Resonance positions and widths by a similarity transformation of a Hermitian Hamiltonian matrix. *J. Chem. Phys.*, *92*(1), 227–230. doi:10.1063/1.458467

265 **Moiseyev**, **N.**, Bensch, F., & Korsch, H. (1990). Multiphoton dissociation or ionization partial widths and branching ratios for time-periodic hamiltonians. *Phys. Rev. A*, *42*(7), 4045–4049. doi:10.1103/PhysRevA.42.4045

266 **Moiseyev**, **N.**, & Korsch, H. (1990a). Metastable quasienergy positions and widths for time-periodic hamiltonians by the complex-coordinate method. *Phys. Rev. A*, *41*(1), 498–501. doi:10.1103/PhysRevA.41.498

267 **Moiseyev**, **N.**, & Peskin, U. (1990). Partial widths obtained by the complex resonance-scattering theory. *Phys. Rev. A*, *42*(1), 255–260. doi:10.1103/PhysRevA.42.255

268 Peskin, U., **Moiseyev**, **N.**, & Lefebvre, R. (1990). Partial widths by asymptotic analysis of the complex scaled resonance wave-function. *J. Chem. Phys.*, *92*(5), 2902–2909. doi:10.1063/1.458565

269 Rom, N., Engdahl, E., & **Moiseyev**, **N.** (1990). Tunneling rates in bound systems using smooth exterior complex scaling within the framework of the finite basis set approximation. *K. Chem. Phys.*, *93*(5), 3413–3419. doi:10.1063/1.458821

270 Engdahl, E., & **Moiseyev**, **N.** (1989). Perturbation analysis of gas-surface diffractive selective adsorption resonance states. *Mol. Phys.*, *66*(2), 465–478. doi:10.1080/00268978900100231

271 Lefebvre, R., & **Moiseyev**, **N.** (1989). Complex eigenvalues in bound systems: A two-channel example. *Chem. Phys. Lett.*, *163*(4-5), 339–343. doi:10.1016/0009-2614(89)85146-2

272 Lipkin, N., **Moiseyev**, **N.**, & Brandas, E. (1989). Resonances by the exterior-scaling method within the framework of the finite-basis-set approximation. *Phys. Rev. A*, *40*(2), 549–553. doi:10.1103/PhysRevA.40.549

273 **Moiseyev**, **N.**, Lipkin, N., Farrelly, D., Atabek, O., & Lefebvre, R. (1989). Determination of tunneling rates in bound systems using the complex coordinate method. *J. Chem. Phys.*, *91*(10), 6246–6253. doi:10.1063/1.457391

274 Benephraim, a., Folman, M., Heidberg, J., & **Moiseyev**, **N.** (1988). Predesorption of CO from the sodium chloride (100) surface: Study by the complex coordinate method. *J. Chem. Phys.*, *89*(6), 3840–3846. doi:10.1063/1.454859

275 Engdahl, E., Maniv, T., & **Moiseyev**, **N.** (1988). Complex quasiprobability for atoms trapped on surfaces: A novel application of the complex coordinate method. *J. Chem. Phys.*, *88*(9), 5864–5870. doi:10.1063/1.454549

276 Kolin, O., Leforestier, C., & **Moiseyev**, **N.** (1988). Resonance transition-probabilities by the complex Lanczos recursion method. *J. Chem. Phys.*, *89*(11), 6836–6840. doi:10.1063/1.455357

277 Lipkin, N., **Moiseyev**, **N.**, & Katriel, J. (1988). Bound and resonance states for isochronous potentials. *Chem. Phys. Lett.*, *147*(6), 603–607. doi:10.1016/0009-2614(88)80276-8

278 **Moiseyev**, **N.**, & Hirschfelder, J. (1988). Representation of several complex coordinate methods by similarity transformation operators. *J. Chem. Phys.*, *88*(2), 1063–1065. doi:10.1063/1.454275

279 Certain, P., & **Moiseyev**, **N.** (1987). Highly excited vibrational-states by adiabatic vs self-consistent-field methods. *J. Chem. Phys.*, *86*(4), 2146–2151. doi:10.1063/1.452112

280 Lipkin, N., & **Moiseyev**, **N.** (1987). Resonance widths and positions of nondilation-analytical potential by the complex-coordinate method. *Phys. Rev. A*, *36*(8), 4076–4077. doi:10.1103/PhysRevA.36.4076

281 Maniv, T., Engdahl, E., & **Moiseyev**, **N.** (1987). Application of the complex rotation method to the study of resonance states of atoms at a corrugated surface. *J. Chem. Phys.*, *86*(2), 1048–1054. doi:10.1063/1.452339

282 Schek, I., **Moiseyev**, **N.**, & Wyatt, R. (1987). Quantum-mechanical study of the survival probability in laser-driven molecules - the role of diagonal and off-diagonal disorder. *Phys. Rev. A*, *36*(8), 3743–3750. doi:10.1103/PhysRevA.36.3743

283 Chang, J., **Moiseyev**, **N.**, & Wyatt, R. (1986). Stable highly excited vibrational eigenvalues without the variational principle. *J. Chem. Phys.*, *84*(9), 4997–5006. doi:10.1063/1.450648 286

284 Davidson, E., Engdahl, E., & **Moiseyev**, **N.** (1986). New bounds to resonance eigenvalues. *Phys. Rev. A*, *33*(4), 2436–2439. doi:10.1103/PhysRevA.33.2436

285 Engdahl, E., & **Moiseyev**, **N.** (1986). Resonances by the complex coordinate method with Hermitian hamiltonian .4. the linear correlation procedure. *J. Chem. Phys.*, *84*(3), 1379–1384. doi:10.1063/1.450478

286 Froelich, P., Goscinski, O., & **Moiseyev**, **N.** (1986). Resonances from the complex dilated hamiltonians in a dilation-adapted basis set with a new stabilization parameter. *J. Chem. Phys.*, *84*(7), 3931–3936. doi:10.1063/1.450103

287 Milfeld, K., & **Moiseyev**, **N.** (1986). Complex resonance eigenvalues by the Lanczos recursion method. *Chem. Phys. Lett.*, *130*(1-2), 145–151. doi:10.1016/0009-2614(86)80442-0

288 **Moiseyev**, **N.**, Brown, R., Wyatt, R., & Tzidoni, E. (1986). Analysis of chaotic eigenfunctions by the natural expansion method. *Chem. Phys. Lett.*, *127*(1), 37–44. doi:10.1016/S0009-2614(86)80205-6

289 **Moiseyev**, **N.**, Friesner, R., & Wyatt, R. (1986). Natural expansion of vibrational wave functions: RRGM with residue algebra. *J. Chem. Phys.*, *85*(1), 331–336. doi:10.1063/1.451660

290 **Moiseyev**, **N.**, & Wyatt, R. (1986). Natural expansion of multimode vibrational wave-functions. *Chem. Phys. Lett.*, *132*(4-5), 396–400. doi:10.1016/0009-2614(86)80633-9

291 Certain, P., & **Moiseyev**, **N.** (1985). Weakly bound, strongly anisotropic vanderwaals molecules. *J. Phys. Chem.*, *89*(14), 2974–2975. doi:10.1021/j100260a003

292 Feingold, M., **Moiseyev**, **N.**, & Peres, A. (1985). Classical limit of quantum chaos. *Chem. Phys. Lett.*, *117*(4), 344–346. doi:10.1016/0009-2614(85)85241-6

293 **Moiseyev**, **N.** (1985). Distribution of energy-level spacing for the self-consistent-field approximation of vibrational motion. *Chem. Phys. Lett.*, *119*(5), 388–392. doi:10.1016/0009-2614(85)80440-1

294 **Moiseyev**, **N.**, & Certain, P. (1985). Calculation of rotational predissociation resonances of van der waals complexes by the complex coordinate method. *J. Phys. Chem.*, *89*(18), 3853–3856. doi:10.1021/j100264a016

295 **Moiseyev**, **N.**, & Goscinski, O. (1985). Effective potentials and the Gelfand-Levitan equation. *Chem. Phys. Lett.*, *120*(6), 520–523. doi:10.1016/0009-2614(85)80546-7

296 **Moiseyev**, **N.**, Maniv, T., Elber, R., & Gerber, R. (1985). Lifetimes of rotational resonances in molecule surface scattering quantum versus classical results. *Mol. Phys.*, *55*(6), 1369–1381. doi:10.1080/00268978500102071

297 **Moiseyev**, **N.**, Schatzberger, R., Froelich, P., & Goscinski, O. (1985). Study of mode specificity by the natural expansion analysis. *J. Chem. Phys.*, *83*(8), 3924–3931. doi:10.1063/1.449104

298 Schatzberger, R., Halevi, E., & **Moiseyev**, **N.** (1985). SCF study of mode selectivity in the unimolecular dissociation of formaldehyde. *J. Phys. Chem.*, *89*(22), 4691–4695. doi:10.1021/j100268a009

299 Feingold, M., **Moiseyev**, **N.**, & Peres, A. (1984). Ergodicity and mixing in quantum-theory .2. *Phys. Rev. A*, *30*(1), 509–512. doi:10.1103/PhysRevA.30.509

300 Froelich, P., & **Moiseyev**, **N.** (1984). Resonances by the complex coordinate method with Hermitian hamiltonian .3. autoionization. *J. Chem. Phys.*, *81*(3), 1352–1354. doi:10.1063/1.447768

301 **Moiseyev**, **N.** (1984a). On the new possibility of chemical bonding - anti-resonance phenomena. *Chem. Phys. Lett.*, *106*(4), 354–355. doi:10.1016/0009-2614(84)80312-7

302 **Moiseyev**, **N.** (1984b). The Hermitian representation of the complex coordinate method theory and application. *LECTURE NOTES IN PHYSICS*, *211*, 235–256

303 **Moiseyev**, **N.**, & Baradon, R. (1984). Vibrational predissociation resonances for a model h–c–c→h+c=c hamiltonian by the complex coordinate method[a]). *J. Chem. Phys.*, *80*(5), 1917–1921. doi:10.1063/1.446924

304 **Moiseyev**, **N.**, Froelich, P., & Watkins, E. (1984). Resonances by the complex coordinate method with Hermitian hamiltonian .2. error-estimates. *J. Chem. Phys.*, *80*(8), 3623–3628. doi:10.1063/1.447182

305 **Moiseyev**, **N.**, & Katriel, J. (1984). Spurious complex energies for confining potentials in the complex-coordinate method. *Chem. Phys. Lett.*, *105*(2), 194–196. doi:10.1016/0009-2614(84)85648-1

306 Katriel, J., & **Moiseyev**, **N.** (1983). Approximate and exact treatments of second-harmonic generation: Regular vs "stochastic" behavior. *J. Chem. Phys.*, *78*(2), 876–881. doi:10.1063/1.444788

307 **Moiseyev**, **N.** (1983a). Intramolecular energy-transfer in isolated molecules and the chaotic behavior of non-linear systems. *J. Phys. Chem.*, *87*(18), 3420–3424. doi:10.1021/j100241a014

308 **Moiseyev**, **N.** (1983b). On the scf method for coupled-vibron systems. *Chem. Phys. Lett.*, *98*(3), 233–238. doi:10.1016/0009-2614(83)87157-7

309 **Moiseyev**, **N.** (1983c). Resonance by the complex coordinate method with Hermitean hamiltonian. *Chem. Phys. Lett.*, *99*(4), 364–367. doi:10.1016/0009-2614(83)87557-5

310 **Moiseyev**, **N.**, & Peres, A. (1983). Motion of wave-packets in regular and chaotic systems. *J. Chem. Phys.*, *79*(12), 5945–5950. doi:10.1063/1.445776

311 **Moiseyev**, **N.** (1982). Resonance states by the generalized complex variational method. *Mol. Phys.*, *47*(3), 585–598. doi:10.1080/00268978200100422

312 Holmer, B., **Moiseyev**, **N.**, & Certain, P. (1981). Polar representation of complex-rotated resonance wave-functions. *J. Phys. Chem.*, *85*(16), 2354–2359. doi:10.1021/j150616a012

313 **Moiseyev**, **N.** (1981a). Studies of multi-channel resonances by the complex scaling method. *Mol. Phys.*, *42*(1), 129–139. doi:10.1080/00268978100100111

314 **Moiseyev**, **N.** (1981b). Study of predissociation resonances by the complex coordinate method. *Int. J. Quantum Chem.*, *20*(4), 835–842. doi:10.1002/qua.560200407

315 **Moiseyev**, **N.** (1981c). Virial-theorem for bound and resonance states as a special case of the scattering virial-theorem. *Phys. Rev. A*, *24*(5), 2824–2825. doi:10.1103/PhysRevA.24.2824

316 **Moiseyev**, **N.**, Certain, P., & Weinhold, F. (1981). Complex-coordinate calculations with complex basis-sets. *Phys. Rev. A*, *24*(3), 1254–1259. doi:10.1103/PhysRevA.24.1254

317 **Moiseyev**, **N.**, Friedland, S., & Certain, P. (1981). Cusps, theta-trajectories, and the complex virial-theorem. *J. Chem. Phys.*, *74*(8), 4739–4740. doi:10.1063/1.441624

318 **Moiseyev**, **N.**, & Friedland, S. (1980). Association of resonance states with the incomplete spectrum of finite complex-scaled hamiltonian matrices. *Phys. Rev. A*, *22*(2), 618–624. doi:10.1103/PhysRevA.22.618

319 **Moiseyev**, **N.**, & Weinhold, F. (1980). Criteria of accuracy of resonance eigenvalues. *Int. J. Quantum Chem.*, *17*(6), 1201–1211. doi:10.1002/qua.560170614

320 **Moiseyev**, **N.**, & Certain, P. (1979). Perturbation approach to the complex-rotation method. *Mol. Phys.*, *37*(5), 1621–1632. doi:10.1080/00268977900101161

321 **Moiseyev**, **N.**, & Corcoran, C. (1979). Autoionizing states of H_2 and H_2^- using the complex-scaling method. *Phys. Rev. A*, *20*(3), 814–817. doi:10.1103/PhysRevA.20.814

322 **Moiseyev**, **N.**, & Weinhold, F. (1979). Electron-correlation effects in the positions and widths of 2-electron auto-ionizing resonances. *Phys. Rev. A*, *20*(1), 27–31. doi:10.1103/PhysRevA.20.27

323 **Moiseyev**, **N.**, & Certain, P. (1978). On the angular correlation of electrons in configuration interaction wavefunctions. *Chem. Phys. Lett.*, *55*(3), 451–453. doi:10.1016/0009-2614(78)84012-3

324 **Moiseyev**, **N.**, Certain, P., & Weinhold, F. (1978a). Complex-coordinate studies of Helium autoionizing resonances. *Int. J. Quantum Chem.*, *14*(6), 727–736. doi:10.1002/qua.560140604

325 **Moiseyev**, **N.**, Certain, P., & Weinhold, F. (1978b). Resonance properties of complex-rotated hamiltonians. *Mol. Phys.*, *36*(6), 1613–1630. doi:10.1080/00268977800102631

326 **Moiseyev**, **N.**, Kventsel, G., & Katriel, J. (1978). Non-non crossings in molecular potential-energy curves - comment. *Chem. Phys. Lett.*, *57*(3), 477–478. doi:10.1016/0009-2614(78)85554-7

327 **Moiseyev**, **N.**, & Katriel, J. (1977). Generalized perturbation-theory - quality of 1st-order wave-function. *Theor. Chim. Acta*, *44*(2), 201–213. doi:10.1007/BF00549102

328 **Moiseyev**, **N.**, Katriel, J., & Boyd, R. (1977). Fermi and Coulomb correlations in 2-1-s state of Helium isoelectronic sequence. *Theor. Chim. Acta*, *45*(1), 61–67. doi:10.1007/BF00551459

329 **Moiseyev, N.**, Katriel, J., & Trindle, C. (1977). A weakly bound, quantum-mechanical buridan's ass. *Int. J. Quantum Chem.*, *12*(4), 759–763. doi:10.1002/qua.560120412

330 **Moiseyev**, **N.**, & Katriel, J. (1976a). Gaussian potential - bound-states in continuum. *Theor. Chim. Acta*, *41*(4), 321–328. doi:10.1007/BF01178000

331 **Moiseyev**, **N.**, & Katriel, J. (1976b). Simple treatment of 2-electron 1-photon transitions. *Phys. Lett. A*, *58*(5), 303–304. doi:10.1016/0375-9601(76)90245-0

332 **Moiseyev**, **N.**, & Katriel, J. (1976c). Stability, continuity, and symmetry of variational wave-functions. *Int. J. Quantum Chem.*, *10*(6), 1011–1023. doi:10.1002/qua.560100612

333 **Moiseyev**, **N.**, & Platzner, I. (1976). Isotope-effect in gas-solid chromatography of SF_6. *J. Chromatogr. Sci.*, *14*(3), 143–148. doi:10.1093/chromsci/14.3.143

334 **Moiseyev**, **N.** (1975). Isotope-effect on physical adsorption on a nonhomogeneous surface. *Journal Of The Chemical Society-Faraday Transactions I*, *71*, 1830–1837. doi:10.1039/f19757101830

335 **Moiseyev**, **N.**, & Katriel, J. (1975a). Coupling of radial and angular-correlations in 2-electron atoms. *Chem. Phys.*, *10*(1), 67–72. doi:10.1016/0301-0104(75)85008-7

336 **Moiseyev**, **N.**, & Katriel, J. (1975b). Generalized perturbation-theory. *Phys. Lett. A*, *54*(2), 125–127. doi:10.1016/0375-9601(75)90834-8

337 **Moiseyev**, **N.**, Katriel, J., & Boyd, R. (1975). Fermi hole in atoms. *J. Phys. B-At. Mol. Opt. Phys.*, *8*(8), L130–L133. doi:10.1088/0022-3700/8/8/002

338 **Moiseyev**, **N.**, & Katriel, J. (1974). Continuity dilemma and Hartree-Fock instabilities. *Chem. Phys. Lett.*, *29*(1), 69–72. doi:10.1016/0009-2614(74)80136-3

Chapters in Books

1 **Moiseyev, N**., & Mailybaev, A. A. (2018). Effects of Exceptional Points in PT-Symmetric Waveguides. In Parity-time Symmetry and Its Applications (pp. 237-259). Springer, Singapore.

2 Landau, A., Bhattacharya, D., Haritan, I., Ben-Asher, A., & **Moiseyev, N**. (2017). Ab initio complex potential energy surfaces from standard quantum chemistry packages. Advances in Quantum Chemistry, 74, 321-346. doi:10.1016/bs.aiq.2016.10.001

3 **Moiseyev, N.** (1997). State-of-State Transition Probabilities and Control of Laser-Induced Dynamical Processes by The (T, T') Method. In Multiparticle Quantum Scattering With Applications to Nuclear, Atomic and Molecular Physics (pp. 225-241). Springer, New York, NY.

4 Vorobeichik, I., Peskin, U., & **Moiseyev, N.** (1995). Propagation of light beam in optical fiber by the (t, t′) method. Nonlinear Opt.

5 **Moiseyev, N.** (1989). Complex scaling applied to trapping of atoms and molecules on solid surfaces. In Resonances The Unifying Route Towards the Formulation of Dynamical Processes

Foundations and Applications in Nuclear, Atomic and Molecular Physics (pp. 459-474). Springer, Berlin, Heidelberg.
6 **Moiseyev, N**. (1984). Resonances-models and phenomena. Lecture Notes in Physics. Albeveiro PS, Ferreira LS, Streit L.
7 Certain, P. R., & **Moiseyev, N.** (1981). "New" Molecular Bound and Resonance States. In Intermolecular Forces (pp. 149-160). Springer, Dordrecht.

Books

1 **Moiseyev N.** (2015). Quantum Mechanics: From Foundation to Applications – Volume I & II (Hebrew). Magnes Press.
2 **Moiseyev, N.** (2011). Non-Hermitian quantum mechanics. Cambridge University Press.
3 **Moiseyev N.** (1997). Quantum Mechanics: A Chemistry Perspective (Hebrew). Michlol, Technion Press.

Reviews

1 Alon, O. E., Averbukh, V., & **Moiseyev, N.** (2004). Atoms, molecules, crystals and nanotubes in laser fields: From dynamical symmetry to selective high-order harmonic generation of soft X-rays. Advances in Quantum Chemistry, 47, 393-421. doi:10.1016/S0065-3276(04)47022-1
2 Narevicius, E., & **Moiseyev, N.** (2003). Non-Hermitian Quantum Mechanics: Theory and Experiments Not Amenable to Conventional QM. In Advanced Topics in Theoretical Chemical Physics (pp. 311-338). Springer, Dordrecht.
3 **Moiseyev**, **N.** (1998). Quantum theory of resonances: Calculating energies, widths and cross-sections by complex scaling. *Phys. Rep.-Rev. Sec. Phys. Lett.*, *302*(5-6), 212–293. doi:10.1016/S0370-1573(98)00002-7.
4 **Moiseyev, N.** (1995). Time-Independent Scattering Theory for General Time-Dependent Hamiltonians. Comments on Atomic and Molecular Physics, 31(2), 87-108.
5 **Moiseyev**, **N.**, & Korsch, H. (1990). Resonance positions and widths for time-periodic hamiltonians by the complex coordinate method. *Isr. J. Chem.*, *30*(1-2), 107–114.