

# Piergiorgio Casavecchia

## List of Publications by Citations

**Source:** <https://exaly.com/author-pdf/8107380/piergiorgio-casavecchia-publications-by-citations.pdf>

**Version:** 2024-04-27

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

149  
papers

6,159  
citations

50  
h-index

69  
g-index

159  
ext. papers

6,489  
ext. citations

4.9  
avg, IF

5.28  
L-index

#	Paper	IF	Citations
149	Chemical reaction dynamics with molecular beams. <i>Reports on Progress in Physics</i> , <b>2000</b> , 63, 355-414	14.4	228
148	Beyond the Lennard-Jones model: a simple and accurate potential function probed by high resolution scattering data useful for molecular dynamics simulations. <i>Physical Chemistry Chemical Physics</i> , <b>2008</b> , 10, 5489-503	3.6	211
147	Study of the reaction dynamics of Li+HF, HCl by the crossed molecular beams method. <i>Journal of Chemical Physics</i> , <b>1980</b> , 73, 2833-2850	3.9	130
146	Reactive scattering of atoms and radicals. <i>Journal of the Chemical Society, Faraday Transactions</i> , <b>1995</b> , 91, 575		124
145	Crossed beam studies of four-atom reactions: The dynamics of OH+CO. <i>Journal of Chemical Physics</i> , <b>1993</b> , 98, 8341-8344	3.9	121
144	Reactive scattering of O(1D) + H <sub>2</sub> . <i>Chemical Physics Letters</i> , <b>1981</b> , 82, 386-391	2.5	108
143	The dynamics of the reaction OH + D <sub>2</sub> -> HOD + D: Crossed beam experiments and quantum mechanical scattering calculations on ab initio potential energy surfaces. <i>Chemical Physics</i> , <b>1996</b> , 207, 389-409	2.3	102
142	High-resolution total differential cross sections for scattering of helium by O <sub>2</sub> , N <sub>2</sub> , and NO. <i>Journal of Chemical Physics</i> , <b>1986</b> , 85, 7011-7029	3.9	100
141	Quantum effects in the differential cross sections for the insertion reaction N(2D) + H <sub>2</sub> . <i>Physical Review Letters</i> , <b>2002</b> , 89, 013201	7.4	98
140	Dynamics of the Simplest Chlorine Atom Reaction: An Experimental and Theoretical Study. <i>Science</i> , <b>1996</b> , 273, 1519-1522	33.3	92
139	Experimental and theoretical differential cross sections for the N(2D) + H <sub>2</sub> reaction. <i>Journal of Physical Chemistry A</i> , <b>2006</b> , 110, 817-29	2.8	91
138	Comparative dynamics of Cl(2P) and O(3P) interactions with a hydrocarbon surface. <i>Journal of Chemical Physics</i> , <b>2000</b> , 112, 5975-5984	3.9	90
137	CRITICAL REVIEW OF N, N + , N + 2 , N ++ , And N ++ 2 MAIN PRODUCTION PROCESSES AND REACTIONS OF RELEVANCE TO TITANUS ATMOSPHERE. <i>Astrophysical Journal, Supplement Series</i> , <b>2013</b> , 204, 20	8	89
136	Crossed molecular beam reactive scattering: from simple triatomic to multichannel polyatomic reactions. <i>International Reviews in Physical Chemistry</i> , <b>2006</b> , 25, 109-163	7	89
135	Crossed-beam studies of reaction dynamics. <i>Annual Review of Physical Chemistry</i> , <b>1999</b> , 50, 347-76	15.7	89
134	The extent of non-Born-Oppenheimer coupling in the reaction of Cl(2P) with para-H <sub>2</sub> . <i>Science</i> , <b>2008</b> , 322, 573-6	33.3	88
133	Intersystem crossing and dynamics in O(3P) + C <sub>2</sub> H <sub>4</sub> multichannel reaction: experiment validates theory. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 9733-8	11.5	86

132	Probing the dynamics of polyatomic multichannel elementary reactions by crossed molecular beam experiments with soft electron-ionization mass spectrometric detection. <i>Physical Chemistry Chemical Physics</i> , <b>2009</b> , 11, 46-65	3.6	86
131	Exploring the reaction dynamics of nitrogen atoms: A combined crossed beam and theoretical study of $N(2D)+D_2 \rightarrow ND+D$ . <i>Journal of Chemical Physics</i> , <b>1999</b> , 110, 8857-8860	3.9	85
130	Crossed molecular beams and quasiclassical trajectory studies of the reaction $O(1D)+H_2(D_2)$ . <i>Journal of Chemical Physics</i> , <b>1998</b> , 108, 6698-6708	3.9	82
129	Decoupling approximations in the quantum mechanical treatment of P-state atom collisions. <i>Journal of Chemical Physics</i> , <b>1980</b> , 73, 1173-1180	3.9	82
128	Magnetic Analysis of Supersonic Beams of Atomic Oxygen, Nitrogen, and Chlorine Generated from a Radio-Frequency Discharge. <i>Israel Journal of Chemistry</i> , <b>1997</b> , 37, 329-342	3.4	81
127	Combined crossed molecular beam and theoretical studies of the $N(2D) + CH_4$ reaction and implications for atmospheric models of Titan. <i>Journal of Physical Chemistry A</i> , <b>2009</b> , 113, 11138-52	2.8	76
126	Crossed beam studies of four-atom reactions: The dynamics of $OH+D_2$ . <i>Journal of Chemical Physics</i> , <b>1993</b> , 98, 2459-2462	3.9	75
125	$C + C_2H_2$ : A Key Reaction in Interstellar Chemistry. <i>Journal of Physical Chemistry A</i> , <b>2002</b> , 106, 5541-5552	2.8	73
124	Dynamics of the $O(3P) + C_2H_4$ reaction: identification of five primary product channels (vinoxy, acetyl, methyl, methylene, and ketene) and branching ratios by the crossed molecular beam technique with soft electron ionization. <i>Journal of Physical Chemistry A</i> , <b>2005</b> , 109, 3527-30	2.8	72
123	Dynamics of the insertion reaction $C(1D) + H_2$ : A comparison of crossed molecular beam experiments with quasiclassical trajectory and quantum mechanical scattering calculations. <i>Physical Chemistry Chemical Physics</i> , <b>2004</b> , 6, 4957-4967	3.6	69
122	Multiproperty determination of a new $N_2/Ar$ intermolecular interaction potential energy surface. <i>Journal of Chemical Physics</i> , <b>1993</b> , 98, 7926-7939	3.9	68
121	Dynamics of the reaction $O(1D) + HCl \rightarrow ClO + H$ from crossed-beam experiments. <i>Chemical Physics Letters</i> , <b>1991</b> , 180, 34-40	2.5	68
120	Reactive Scattering of Oxygen and Nitrogen Atoms. <i>Accounts of Chemical Research</i> , <b>1999</b> , 32, 503-511	24.3	67
119	Formation of nitriles and imines in the atmosphere of Titan: combined crossed-beam and theoretical studies on the reaction dynamics of excited nitrogen atoms $N(2D)$ with ethane. <i>Faraday Discussions</i> , <b>2010</b> , 147, 189-216; discussion 251-82	3.6	64
118	Dynamics of the $C(1D)+D_2$ reaction: a comparison of crossed molecular-beam experiments with quasiclassical trajectory and accurate statistical calculations. <i>Journal of Chemical Physics</i> , <b>2005</b> , 122, 2343-309	3.9	64
117	A crossed molecular beams investigation of the reactions $O(3P)+ C_6H_6, C_6D_6$ . <i>Journal of Chemical Physics</i> , <b>1980</b> , 72, 4341-4349	3.9	64
116	Soft electron impact ionization in crossed molecular beam reactive scattering: the dynamics of the $O((3)P)+C(2)H(2)$ reaction. <i>Journal of Chemical Physics</i> , <b>2004</b> , 120, 4557-60	3.9	62
115	Observation of Nitrogen-Bearing Organic Molecules from Reactions of Nitrogen Atoms with Hydrocarbons: A Crossed Beam Study of $N(2D) + Ethylene$ . <i>Journal of Physical Chemistry A</i> , <b>2000</b> , 104, 5655-5659	2.8	62

114	Reactive scattering of ground-state and electronically excited oxygen atoms on a liquid hydrocarbon surface. <i>Faraday Discussions</i> , <b>1997</b> , 108, 387-399	3.6	60
113	Improved potential energy surface for He+O2. <i>Journal of Chemical Physics</i> , <b>1988</b> , 89, 4671-4679	3.9	60
112	Rare gas-halogen atom interaction potentials from crossed molecular beams experiments: I(2P3/2)+Kr, Xe(1S0). <i>Journal of Chemical Physics</i> , <b>1982</b> , 77, 1878-1885	3.9	60
111	A crossed-beam study of the reaction C(1D)+H2(X1 $\Sigma$ , v=0)->H(X2 $\Sigma$ , v?)>+H(2S). <i>Chemical Physics Letters</i> , <b>2000</b> , 327, 197-202	2.5	59
110	Coupled-channel study of halogen (2P) + rare gas (1S) scattering. <i>Journal of Chemical Physics</i> , <b>1979</b> , 70, 5477-5488	3.9	58
109	Cyanomethylene Formation from the Reaction of Excited Nitrogen Atoms with Acetylene: A Crossed Beam and ab Initio Study. <i>Journal of the American Chemical Society</i> , <b>2000</b> , 122, 4443-4450	16.4	57
108	Crossed molecular beam studies on the interaction potentials for F(2P) + Ne,Ar,Kr(1S). <i>Journal of Chemical Physics</i> , <b>1979</b> , 70, 2986-2990	3.9	56
107	Crossed beam studies of elementary reactions of N and C atoms and CN radicals of importance in combustion. <i>Faraday Discussions</i> , <b>2001</b> , 27-49; discussion 121-43	3.6	55
106	Differential cross sections from quantum calculations on coupled Ab initio potential energy surfaces and scattering experiments for Cl(2P)+H2 reactions. <i>Physical Review Letters</i> , <b>2003</b> , 91, 013201	7.4	54
105	Crossed beam polyatomic reaction dynamics: recent advances and new insights. <i>Chemical Society Reviews</i> , <b>2017</b> , 46, 7517-7547	58.5	52
104	Experimental and Theoretical Studies on the Dynamics of the O(3P) + Propene Reaction: Primary Products, Branching Ratios, and Role of Intersystem Crossing. <i>Journal of Physical Chemistry C</i> , <b>2015</b> , 119, 14632-14652	3.8	52
103	Experimental and theoretical differential cross sections for the reactions Cl+H2/D2. <i>Journal of Chemical Physics</i> , <b>2001</b> , 114, 10662-10672	3.9	52
102	The HeCl2 potential: Atom-atom and ab initio compared to experiment. <i>Journal of Chemical Physics</i> , <b>1995</b> , 102, 8846-8854	3.9	52
101	Unraveling the dynamics of the C(3P,1D) + C2H2 reactions by the crossed molecular beam scattering technique. <i>Journal of Physical Chemistry A</i> , <b>2008</b> , 112, 1363-79	2.8	51
100	A crossed molecular beam study of the O(1D2)+CH4 reaction. <i>Journal of Chemical Physics</i> , <b>1980</b> , 73, 6351-6352	3.6	51
99	Interaction potentials for Br(2P)+Ar, Kr, and Xe (1S) by the crossed molecular beams method. <i>Journal of Chemical Physics</i> , <b>1981</b> , 75, 710-721	3.9	49
98	The HeCl2 potential: A combined scattering-spectroscopic study. <i>Journal of Chemical Physics</i> , <b>1993</b> , 98, 178-185	3.9	48
97	Experimental and theoretical studies of the O(3P) + C2H4 reaction dynamics: collision energy dependence of branching ratios and extent of intersystem crossing. <i>Journal of Chemical Physics</i> , <b>2012</b> , 137, 22A532	3.9	46

96	Dynamics of the N(2D) + D <sub>2</sub> Reaction from Crossed-Beam and Quasiclassical Trajectory Studies. <i>Journal of Physical Chemistry A</i> , <b>2001</b> , 105, 2414-2422	2.8	46
95	The effect of reagent electronic energy on the dynamics of chemical reactions: A high-resolution crossed beam study of O(3P,1D)+H <sub>2</sub> S. <i>Journal of Chemical Physics</i> , <b>1991</b> , 94, 8611-8614	3.9	45
94	The Ne-He potential energy surface from high-resolution total differential scattering experiments and a close-coupling and infinite-order-sudden analysis. <i>Journal of Chemical Physics</i> , <b>1988</b> , 89, 3505-3518	3.9	44
93	Relevance of the Channel Leading to Formaldehyde + Triplet Ethylidene in the O((3)P) + Propene Reaction under Combustion Conditions. <i>Journal of Physical Chemistry Letters</i> , <b>2014</b> , 5, 4213-8	6.4	43
92	Dynamics of the Cl+H <sub>2</sub> /D <sub>2</sub> reaction: a comparison of crossed molecular beam experiments with quasiclassical trajectory and quantum mechanical calculations. <i>Physical Chemistry Chemical Physics</i> , <b>2000</b> , 2, 599-612	3.6	43
91	Crossed Molecular Beams and Quasiclassical Trajectory Surface Hopping Studies of the Multichannel Nonadiabatic O((3)P) + Ethylene Reaction at High Collision Energy. <i>Journal of Physical Chemistry A</i> , <b>2015</b> , 119, 12498-511	2.8	42
90	Combined crossed beam and theoretical studies of the N(2D) + C <sub>2</sub> H <sub>4</sub> reaction and implications for atmospheric models of Titan. <i>Journal of Physical Chemistry A</i> , <b>2012</b> , 116, 10467-79	2.8	42
89	A quasiclassical trajectory test for a potential energy surface of the Li+HF reaction. <i>Journal of Chemical Physics</i> , <b>1982</b> , 77, 6341-6342	3.9	42
88	Crossed Molecular Beam Dynamics Studies of the O(3P) + Allene Reaction: Primary Products, Branching Ratios, and Dominant Role of Intersystem Crossing. <i>Journal of Physical Chemistry Letters</i> , <b>2012</b> , 3, 75-80	6.4	41
87	Crossed molecular beam studies on the interaction potential for F(2P)+Xe(1S). <i>Journal of Chemical Physics</i> , <b>1978</b> , 69, 2377	3.9	39
86	Crossed molecular beam studies on the interaction potentials for Cl(2P) + Xe(1S). <i>Chemical Physics Letters</i> , <b>1979</b> , 61, 1-5	2.5	39
85	Direct observation of forward-scattering oscillations in the H+HD-kl+D reaction. <i>Nature Chemistry</i> , <b>2018</b> , 10, 653-658	17.6	38
84	Combined crossed-beam studies of C(3P)+C <sub>2</sub> H <sub>4</sub> -k3H <sub>3</sub> +H reaction dynamics between 0.49 and 30.8 kJ mol <sup>-1</sup> . <i>Journal of Chemical Physics</i> , <b>2003</b> , 119, 10607-10617	3.9	38
83	On the N <sub>2</sub> He potential energy surface. <i>Journal of Chemical Physics</i> , <b>1991</b> , 95, 5827-5845	3.9	38
82	Combined crossed beam and theoretical studies of the C(1D) + CH <sub>4</sub> reaction. <i>Journal of Chemical Physics</i> , <b>2013</b> , 138, 024311	3.9	36
81	The dynamics of the prototype abstraction reaction Cl(2P <sub>3/2</sub> ,1/2) + H <sub>2</sub> : A comparison of crossed molecular beam experiments with exact quantum scattering calculations on coupled ab initio potential energy surfaces. <i>Physical Chemistry Chemical Physics</i> , <b>2004</b> , 6, 5007	3.6	36
80	Anisotropic intermolecular potentials for NO?Ar and NO?Kr from total differential cross section measurements. <i>Chemical Physics Letters</i> , <b>1984</b> , 112, 445-451	2.5	36
79	Reaction dynamics of oxygen atoms with unsaturated hydrocarbons from crossed molecular beam studies: primary products, branching ratios and role of intersystem crossing. <i>International Reviews in Physical Chemistry</i> , <b>2015</b> , 34, 161-204	7	35

78	Crossed-beam universal-detection reactive scattering of radical beams characterized by laser-induced-fluorescence: the case of C2 and CN. <i>Molecular Physics</i> , <b>2010</b> , 108, 1097-1113	1.7	34
77	Crossed-beam dynamics, low-temperature kinetics, and theoretical studies of the reaction S(1D) + C2H4. <i>Journal of Physical Chemistry A</i> , <b>2009</b> , 113, 15328-45	2.8	34
76	Crossed-beam studies on the dynamics of the C + C2H2 interstellar reaction leading to linear and cyclic C3H + H and C3 + H2. <i>Faraday Discussions</i> , <b>2006</b> , 133, 157-76; discussion 191-230, 449-52	3.6	34
75	Dynamics of the C+C2H2 reaction from differential and integral cross-section measurements in crossed-beam experiments. <i>Journal of Chemical Physics</i> , <b>2002</b> , 116, 5603-5611	3.9	34
74	The NeD2 potential energy surface from high-resolution diffraction and glory scattering experiments and from the Zeeman spectrum. <i>Journal of Chemical Physics</i> , <b>1991</b> , 95, 195-204	3.9	32
73	The enthalpy of formation of the HSO radical. <i>Chemical Physics Letters</i> , <b>1993</b> , 211, 469-472	2.5	32
72	Observation of organosulfur products (thiovinoyl, thioketene and thioformyl) in crossed-beam experiments and low temperature rate coefficients for the reaction S(1D) + C2H4. <i>Physical Chemistry Chemical Physics</i> , <b>2009</b> , 11, 4701-6	3.6	31
71	Crossed beam studies of radical-radical reactions: O(3P) + C3H5 (allyl). <i>Physical Chemistry Chemical Physics</i> , <b>2007</b> , 9, 1307-11	3.6	31
70	Dynamics of the Cl+D2 reaction: a comparison of crossed molecular beam experiments with quasi-classical trajectory calculations on a new ab initio potential energy surface. <i>Chemical Physics Letters</i> , <b>2000</b> , 328, 500-508	2.5	31
69	Crossed beam studies of the reactions of atomic oxygen in the ground 3P and first electronically excited 1D states with hydrogen sulfide. <i>Journal of Chemical Physics</i> , <b>2004</b> , 120, 9571-82	3.9	30
68	Observation of high frequency quantum oscillations in elastic differential cross sections: A critical test of the NeAr interaction potential. <i>Journal of Chemical Physics</i> , <b>1986</b> , 84, 4828-4832	3.9	30
67	Dynamics of the C(1D)+H2 reaction: A comparison of crossed molecular beam experiments with quantum mechanical and quasiclassical trajectory calculations on the first two singlet (11A? and 11A?) potential energy surfaces. <i>Molecular Physics</i> , <b>2010</b> , 108, 373-380	1.7	28
66	Crossed molecular beam study of gas phase reactions relevant to the chemistry of planetary atmospheres: The case of C2+C2H2. <i>Planetary and Space Science</i> , <b>2008</b> , 56, 1658-1673	2	28
65	Crossed beam studies of the O(3P,1D)+CH3I reactions: Direct evidence of intersystem crossing. <i>Faraday Discussions</i> , <b>1999</b> , 113, 133-150	3.6	28
64	On the dynamics of the O(1D) + CF3Br reaction. <i>Chemical Physics Letters</i> , <b>1996</b> , 258, 323-329	2.5	28
63	Dynamics of the O((3)P) + C2H2 reaction from crossed molecular beam experiments with soft electron ionization detection. <i>Physical Chemistry Chemical Physics</i> , <b>2014</b> , 16, 10008-22	3.6	27
62	Crossed-beam and theoretical studies of the S(1D) + C2H2 reaction. <i>Journal of Physical Chemistry A</i> , <b>2009</b> , 113, 4330-9	2.8	27
61	The dynamics of the reaction of O(1D) with HBr studied by crossed molecular beams and time-resolved Fourier transform spectroscopy. <i>Canadian Journal of Chemistry</i> , <b>1994</b> , 72, 888-902	0.9	27

60	Total inelastic cross sections for potassium ion-atom collisions: Oscillations in the velocity dependence and correlation with molecular structure. <i>Journal of Chemical Physics</i> , <b>1976</b> , 64, 751-759	3.9	26
59	Crossed molecular beam studies of bimolecular reactions of relevance in combustion. <i>Energy</i> , <b>2012</b> , 43, 47-54	7.9	25
58	Low temperature kinetics, crossed beam dynamics and theoretical studies of the reaction S((1)D) + CH <sub>4</sub> and low temperature kinetics of S((1)D) + C <sub>2</sub> H <sub>2</sub> . <i>Physical Chemistry Chemical Physics</i> , <b>2011</b> , 13, 8485-501	3.6	25
57	Differential Scattering Cross Sections for HeCl <sub>2</sub> , NeCl <sub>2</sub> , and ArCl <sub>2</sub> : Multiproperty Fits of the Potential Energy Surfaces. <i>Journal of Physical Chemistry A</i> , <b>1997</b> , 101, 6528-6537	2.8	24
56	Dynamics of the O(1D) D <sub>2</sub> reaction: A comparison between crossed molecular beam experiments and quasiclassical trajectory calculations on the lowest three potential energy surfaces. <i>Molecular Physics</i> , <b>2005</b> , 103, 1703-1714	1.7	24
55	The last mile of molecular reaction dynamics virtual experiments: the case of the OH(N = 1-10) + CO(j = 0-3) reaction. <i>Faraday Discussions</i> , <b>2012</b> , 157, 415-36; discussion 475-500	3.6	23
54	Atom-molecule interactions from multiproperty analysis. An integrated study of the dynamics for oxygen rare-gas systems. <i>Faraday Discussions of the Chemical Society</i> , <b>1982</b> , 73, 257-273		22
53	Reaction Dynamics of O((3)P) + Propyne: II. Primary Products, Branching Ratios, and Role of Intersystem Crossing from Ab Initio Coupled Triplet/Singlet Potential Energy Surfaces and Statistical Calculations. <i>Journal of Physical Chemistry A</i> , <b>2016</b> , 120, 4619-33	2.8	21
52	Theoretical Study of Reactions Relevant for Atmospheric Models of Titan: Interaction of Excited Nitrogen Atoms with Small Hydrocarbons. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 331-344	0.9	19
51	Classical trajectory calculation of transport and relaxation properties for N <sub>2</sub> He mixtures. <i>Journal of Chemical Physics</i> , <b>1990</b> , 93, 4699-4712	3.9	18
50	Cross sections for excitation of the potassium resonance doublet in collisions between potassium atoms and alkali ions. <i>Journal of Chemical Physics</i> , <b>1976</b> , 65, 5518-5521	3.9	18
49	Isomer-Specific Chemistry in the Propyne and Allene Reactions with Oxygen Atoms: CH <sub>3</sub> CH + CO versus CH <sub>2</sub> CH <sub>2</sub> + CO Products. <i>Journal of Physical Chemistry Letters</i> , <b>2016</b> , 7, 1010-5	6.4	17
48	Crossed-beam dynamics studies of the radical-radical combustion reaction O((3)P) + CH <sub>3</sub> (methyl). <i>Physical Chemistry Chemical Physics</i> , <b>2011</b> , 13, 8322-30	3.6	17
47	Excitation of Hg(6 3P <sub>1</sub> ) by low energy alkali ion impact: Optical polarization and cross sections for magnetic sublevels. <i>Journal of Chemical Physics</i> , <b>1978</b> , 68, 1499-1510	3.9	17
46	Reaction Dynamics of O((3)P) + Propyne: I. Primary Products, Branching Ratios, and Role of Intersystem Crossing from Crossed Molecular Beam Experiments. <i>Journal of Physical Chemistry A</i> , <b>2016</b> , 120, 4603-18	2.8	17
45	Quasiclassical Trajectory Calculations of the N((2)D) + H <sub>2</sub> O Reaction Elucidating the Formation Mechanism of HNO and HON Seen in Molecular Beam Experiments. <i>Journal of Physical Chemistry Letters</i> , <b>2014</b> , 5, 3508-13	6.4	16
44	A crossed beam study of the reaction CN + C <sub>2</sub> H <sub>4</sub> at a high collision energy: The opening of a new reaction channel. <i>Chemical Physics Letters</i> , <b>2012</b> , 553, 1-5	2.5	16
43	Reaction dynamics and relative yields of the H- and CH <sub>3</sub> -displacement channels in the O + CH <sub>3</sub> CCH reaction. <i>Chemical Physics Letters</i> , <b>2014</b> , 602, 58-62	2.5	15

42	A Crossed Molecular Beam Study of the Reaction $O(1D) + HI \rightarrow HO + H$ . <i>Journal of Physical Chemistry A</i> , <b>1997</b> , 101, 6455-6462	2.8	15
41	A Theoretical Study of Formation Routes and Dimerization of Methanimine and Implications for the Aerosols Formation in the Upper Atmosphere of Titan. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 47-56	0.9	14
40	Onsager Heat of Transport Measured at the n-Heptanol Liquid-Vapor Interface. <i>Journal of Physical Chemistry B</i> , <b>2004</b> , 108, 2681-2685	3.4	14
39	Combined Experimental and Theoretical Studies of the $O(P) + 1$ -Butene Reaction Dynamics: Primary Products, Branching Fractions, and Role of Intersystem Crossing. <i>Journal of Physical Chemistry A</i> , <b>2019</b> , 123, 9934-9956	2.8	13
38	An Extension of the Molecular Simulator GEMS to Calculate the Signal of Crossed Beam Experiments. <i>Lecture Notes in Computer Science</i> , <b>2011</b> , 453-465	0.9	13
37	Oxidation and nitridation of vitreous carbon at high temperatures. <i>Carbon</i> , <b>2020</b> , 167, 388-402	10.4	12
36	Cross sections for excitation of $Cd(5\ 3P1)$ and $Cd(5\ 1P1)$ and of their magnetic sublevels in $Na^+ + Cd$ collisions. <i>Journal of Chemical Physics</i> , <b>1979</b> , 71, 3546-3547	3.9	12
35	The Astrochemical Observatory: Experimental and Computational Focus on the Chiral Molecule Propylene Oxide as a Case Study. <i>Lecture Notes in Computer Science</i> , <b>2017</b> , 267-280	0.9	12
34	Observation of H displacement and $H_2$ elimination channels in the reaction of $O(3P)$ with 1-butene from crossed beams and theoretical studies. <i>Chemical Physics Letters</i> , <b>2017</b> , 683, 105-111	2.5	11
33	A combined crossed molecular beams and theoretical study of the reaction $CN + C_2H_4$ . <i>Chemical Physics</i> , <b>2015</b> , 449, 34-42	2.3	11
32	Chemistry. Uncloaking the quantum nature of inelastic molecular collisions. <i>Science</i> , <b>2013</b> , 341, 1076-7	33.3	11
31	Combined Experimental-Theoretical Study of the $OH + CO \rightarrow H + CO$ Reaction Dynamics. <i>Journal of Physical Chemistry Letters</i> , <b>2018</b> , 9, 1229-1236	6.4	10
30	REACTIVE SCATTERING OF $O(3P, 1D)$ , $Cl(2P)$ AND $OH$ RADICALS. <i>Advanced Series in Physical Chemistry</i> , <b>1996</b> , 365-437		9
29	Theoretical Study of the Extent of Intersystem Crossing in the $O(P) + CH$ Reaction with Experimental Validation. <i>Journal of Physical Chemistry Letters</i> , <b>2020</b> , 11, 9621-9628	6.4	9
28	A combined crossed molecular beam and quasiclassical trajectory study of the Titan-relevant $N(2D) + D_2O$ reaction. <i>Molecular Physics</i> , <b>2015</b> , 113, 2296-2301	1.7	8
27	Crossed molecular beam studies of $C(3P, 1D)$ and $C_2(X^1\Sigma_g^+, a^3\Sigma_u^-)$ reactions with acetylene. <i>Physica Scripta</i> , <b>2008</b> , 78, 058117	2.6	8
26	A Theoretical Investigation of the Reaction $N(2D) + C_6H_6$ and Implications for the Upper Atmosphere of Titan. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 763-772	0.9	8
25	A Computational Study of the Reaction $N(2D) + C_6H_6$ Leading to Pyridine and Phenylnitrene. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 316-324	0.9	6



24	The astrochemical observatory: Computational and theoretical focus on molecular chirality changing torsions around O-D and S-B bonds <b>2017</b> ,		6
23	Gas-phase reactions in extraterrestrial environments: laboratory investigations by crossed molecular beams. <i>Origins of Life and Evolution of Biospheres</i> , <b>2006</b> , 36, 443-50	1.5	6
22	Quantum-mechanical phase interference and optical polarization in low-energy Na+?Hg inelastic collisions. <i>Chemical Physics Letters</i> , <b>1977</b> , 47, 288-291	2.5	6
21	Crossed molecular beams and theoretical studies of the O(3P)+ 1,2-butadiene reaction: Dominant formation of propene+CO and ethylidene+ketene molecular channels <i>Chinese Journal of Chemical Physics</i> , <b>2019</b> , 32, 113-122	0.9	6
20	Neutral-Neutral Gas-Phase Reactions In Extraterrestrial Environments: Laboratory Investigations By Crossed Molecular Beams. <i>AIP Conference Proceedings</i> , <b>2006</b> ,	0	5
19	A Computational Study on the Insertion of N(2D) into a C-H or C-C Bond: The Reactions of N(2D) with Benzene and Toluene and Their Implications on the Chemistry of Titan. <i>Lecture Notes in Computer Science</i> , <b>2020</b> , 744-755	0.9	5
18	Rate rules for the reactions of oxygen atoms with terminal alkenes. <i>Fuel</i> , <b>2020</b> , 263, 116536	7.1	5
17	Statistical treatment of recoil energy and angular distributions in the products of the reactions O(1D, 3P)+ICH <sub>3</sub> -DI+CH <sub>3</sub> . <i>Physical Chemistry Chemical Physics</i> , <b>2000</b> , 2, 741-745	3.6	4
16	Reactive scattering of oxygen [O(3P)] with toluene. <i>Journal of the American Chemical Society</i> , <b>1984</b> , 106, 4108-4111	16.4	4
15	CROSSED MOLECULAR BEAM REACTIVE SCATTERING: TOWARDS UNIVERSAL PRODUCT DETECTION BY SOFT ELECTRON-IMPACT IONIZATION. <i>Advanced Series in Physical Chemistry</i> , <b>2004</b> , 329-381		4
14	Crossed-Beam and Theoretical Studies of the O(P, D) + Benzene Reactions: Primary Products, Branching Fractions, and Role of Intersystem Crossing. <i>Journal of Physical Chemistry A</i> , <b>2021</b> , 125, 8434-8453	2.8	4
13	Crossed molecular beam studies of astronomically relevant bimolecular reactions. <i>Rendiconti Lincei</i> , <b>2011</b> , 22, 173-181	1.7	3
12	Reaction dynamics of O(3p), O(1D) and OH(2 $\Sigma$ ) with simple molecules <b>1993</b> , 1-63		3
11	The Reaction N(D) + CHCCH (Methylacetylene): A Combined Crossed Molecular Beams and Theoretical Investigation and Implications for the Atmosphere of Titan. <i>Journal of Physical Chemistry A</i> , <b>2021</b> , 125, 8846-8859	2.8	3
10	High Resolution Crossed Molecular Beam Studies of Van Der Waals Forces <b>1987</b> , 441-454		3
9	Combined crossed molecular beams and computational study on the N(2D) + HCCCN(X $^1\Sigma$ ) reaction and implications for extra-terrestrial environments. <i>Molecular Physics</i> , <b>1948</b> 126	1.7	3
8	A Computational Study on the Attack of Nitrogen and Oxygen Atoms to Toluene. <i>Lecture Notes in Computer Science</i> , <b>2021</b> , 620-631	0.9	3
7	Formation of Nitrogen-Bearing Organic Molecules in the Reaction NH + C <sub>2</sub> H <sub>5</sub> : A Theoretical Investigation and Main Implications for Prebiotic Chemistry in Space. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 773-782	0.9	3

6	A crossed molecular beam investigation of the N(2D) <sub>g</sub> +pyridine reaction and implications for prebiotic chemistry. <i>Chemical Physics Letters</i> , <b>2021</b> , 779, 138852	2.5	3
5	Primary Products and Branching Ratios for Combustion Multi-Channel Bimolecular Reactions from Crossed Molecular Beam Studies. <i>Green Energy and Technology</i> , <b>2013</b> , 577-606	0.6	3
4	Molecular beam studies of elementary reactions relevant in plasma/combustion chemistry: O(3P) + unsaturated hydrocarbons. <i>Rendiconti Lincei</i> , <b>2019</b> , 30, 549-561	1.7	2
3	His arrows and his targets: a tribute to Vincenzo Aquilanti. <i>Journal of Physical Chemistry A</i> , <b>2009</b> , 113, 14181-3	2.8	2
2	Potential Energy Surfaces for Open Shell Species. <i>NATO ASI Series Series B: Physics</i> , <b>1990</b> , 123-141		
1	Excitation of Cd(53P1) and Cd(51P1) in Na <sup>+</sup> -Cd Collisions: Optical Polarization and Population of Magnetic Sublevels <b>1980</b> , 413-421		