

Ivan A Troyan

List of Publications by Year in Descending Order

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

88

papers

6,060

citations

28

h-index

77

g-index

92

ext. papers

7,075

ext. citations

5.9

avg, IF

5.71

L-index

#	Paper	IF	Citations
88	Anomalous High-Temperature Superconductivity in YH. <i>Advanced Materials</i> , 2021 , 33, e2006832	24	60
87	Crystal structure and phase transitions at high pressures in the superconductor FeSe _{0.89} S _{0.11} . <i>Journal of Alloys and Compounds</i> , 2021 , 860, 158419	5.7	1
86	Superconductivity at 253 K in lanthanum–yttrium ternary hydrides. <i>Materials Today</i> , 2021 , 48, 18-18	21.8	29
85	Novel Strongly Correlated Europium Superhydrides. <i>Journal of Physical Chemistry Letters</i> , 2021 , 12, 32-40	6.4	11
84	Superconductivity in La and Y hydrides: Remaining questions to experiment and theory. <i>Matter and Radiation at Extremes</i> , 2020 , 5, 028201	4.7	34
83	Time for quartet: the stable 3 : 1 cocrystal formulation of FTDO and BTF is a high-energy-density material. <i>CrystEngComm</i> , 2020 , 22, 4823-4832	3.3	9
82	Superconductivity at 161 K in thorium hydride ThH ₁₀ : Synthesis and properties. <i>Materials Today</i> , 2020 , 33, 36-44	21.8	102
81	Synthesis and mutual transformations of nitronium tetrakis(nitrooxy)- and tetrakis(2,2,2-trifluoroacetoxy)borates. <i>New Journal of Chemistry</i> , 2020 , 44, 13944-13951	3.6	1
80	Superconductivity and equation of state of lanthanum at megabar pressures. <i>Physical Review B</i> , 2020 , 102,	3.3	7
79	Simultaneous measurements of the two-dimensional distribution of infrared laser intensity and temperature in a single-sided laser-heated diamond anvil cell. <i>Comptes Rendus - Geoscience</i> , 2019 , 351, 286-294	1.4	4
78	Reactions of nitronium sulfates: Hunting for dinitro sulfate. <i>Journal of Raman Spectroscopy</i> , 2019 , 50, 1753-1762	2.3	3
77	Pressure-Induced Structural Transition to the Polar Phase in GdFe ₃ (BO ₃) ₄ . <i>Crystal Growth and Design</i> , 2019 , 19, 6935-6944	3.5	2
76	Measurement of the temperature distribution on the surface of the laser heated specimen in a diamond anvil cell system by the tandem imaging acousto-optical filter. <i>High Pressure Research</i> , 2019 , 39, 131-149	1.6	9
75	Synthesis of New Materials in the Boron–Carbon System. <i>Glass and Ceramics (English Translation of Steklo I Keramika)</i> , 2018 , 74, 434-439	0.6	3
74	Normal and grazing incidence pulsed laser deposition of nanostructured MoS _x hydrogen evolution catalysts from a MoS ₂ target. <i>Optics and Laser Technology</i> , 2018 , 102, 74-84	4.2	19
73	Synthesis, Characterization of Elastic and Electrical Properties of Diamond-like BC _x Nano-Phases Synthesized under High and Low Pressures. <i>MRS Advances</i> , 2018 , 3, 45-52	0.7	3
72	Spin Crossover and the Magnetic Phase Diagram of Hematite at High Hydrostatic Pressures and Cryogenic Temperatures. <i>JETP Letters</i> , 2018 , 107, 247-253	1.2	2

71	The Effect of Boron on the Structure and Conductivity of Thin Films Obtained by Laser Ablation of Diamond with Deposition at 700°C. <i>Technical Physics Letters</i> , 2018 , 44, 511-514	0.7	5
70	High pressure magnetic, structural, and electronic transitions in multiferroic Ba ₃ NbFe ₃ Si ₂ O ₁₄ . <i>Applied Physics Letters</i> , 2018 , 112, 242405	3.4	3
69	Superconductivity and structural studies of highly compressed hydrogen sulfide. <i>Physica C: Superconductivity and Its Applications</i> , 2018 , 552, 27-29	1.3	8
68	Electron-withdrawing effect of substituents in acyl nitrates on the polarization of the O-N-O ₂ bond. <i>Mendeleev Communications</i> , 2018 , 28, 641-643	1.9	2
67	Structural Phase Transitions and the Equation of State in SnSe at High Pressures up to 2 Mbar. <i>JETP Letters</i> , 2018 , 108, 414-418	1.2	3
66	Combined laser heating and tandem acousto-optical filter for two-dimensional temperature distribution on the surface of the heated microobject. <i>Journal of Physics: Conference Series</i> , 2018 , 946, 012085	0.3	4
65	Magnetic phase separation and strong enhancement of the Néel temperature at high pressures in a new multiferroic Ba ₃ TaFe ₃ Si ₂ O ₁₄ . <i>JETP Letters</i> , 2017 , 105, 26-33	1.2	2
64	Bonding, elastic and vibrational properties in low and high pressure synthesized diamond-like BC _x phases. <i>Journal of Physics: Conference Series</i> , 2017 , 950, 042050	0.3	1
63	Structural Transitions in Elemental Tin at Ultra High Pressures up to 230 GPa. <i>JETP Letters</i> , 2017 , 106, 733-738	1.2	6
62	An imaging spectroradiometry system for measuring spatial temperature distributions in microscopic objects. <i>Instruments and Experimental Techniques</i> , 2017 , 60, 401-406	0.5	1
61	Structural phase transitions and the equation of state of SnTe at high pressures up to 2 mbar. <i>JETP Letters</i> , 2017 , 106, 662-666	1.2	2
60	MULTI-SPECTRAL IMAGE PROCESSING FOR THE MEASUREMENT OF A SPATIAL TEMPERATURE DISTRIBUTION ON THE SURFACE OF A LASER-HEATED MICROSCOPIC OBJECT. <i>Computer Optics</i> , 2017 , 41, 864-868	1.4	8
59	Stable solid and aqueous H ₂ CO ₃ from CO ₂ and H ₂ O at high pressure and high temperature. <i>Scientific Reports</i> , 2016 , 6, 19902	4.9	23
58	Observation of superconductivity in hydrogen sulfide from nuclear resonant scattering. <i>Science</i> , 2016 , 351, 1303-6	33.3	88
57	Structural transitions in iron-based Ba ₃ NbFe ₃ Si ₂ O ₁₄ langasite at high pressures. <i>Europhysics Letters</i> , 2016 , 116, 66003	1.6	0
56	Crystal Structure of the Superconducting Phase of Sulfur Hydride. <i>Nature Physics</i> , 2016 , 12, 835-838	16.2	285
55	Conventional superconductivity at 203 kelvin at high pressures in the sulfur hydride system. <i>Nature</i> , 2015 , 525, 73-6	50.4	1239
54	Nitrogen Backbone Oligomers. <i>Scientific Reports</i> , 2015 , 5, 13239	4.9	27

53	Equation of state and structural phase transitions in iron-based Ba ₃ TaFe ₃ Si ₂ O ₁₄ langasite at high hydrostatic pressures. <i>JETP Letters</i> , 2015 , 100, 798-806	1.2	7
52	High pressure synthesis of marcasite-type rhodium pernitride. <i>Inorganic Chemistry</i> , 2014 , 53, 697-9	5.1	40
51	Pressure induced ionic-superionic transition in silver iodide at ambient temperature. <i>Journal of Chemical Physics</i> , 2014 , 140, 044708	3.9	9
50	Lone-pair interactions and photodissociation of compressed nitrogen trifluoride. <i>Journal of Chemical Physics</i> , 2014 , 141, 064706	3.9	5
49	Ammonia as a case study for the spontaneous ionization of a simple hydrogen-bonded compound. <i>Nature Communications</i> , 2014 , 5, 3460	17.4	40
48	Infrared study of hydrogen up to 310 GPa at room temperature. <i>High Pressure Research</i> , 2013 , 33, 377-380	6	15
47	The magnetic P-T phase diagram of langasite Ba ₃ TaFe ₃ Si ₂ O ₁₄ at high hydrostatic pressures up to 38 GPa. <i>Applied Physics Letters</i> , 2013 , 103, 162402	3.4	7
46	Pressure-tuned vibrational resonance coupling of intramolecular fundamentals in ammonium azide (NH ₄ N ₃). <i>Vibrational Spectroscopy</i> , 2012 , 58, 188-192	2.1	16
45	Insulator-metal transition in highly compressed NiO. <i>Physical Review Letters</i> , 2012 , 109, 086402	7.4	40
44	Electron transport in FeBO ₃ ferroborate at ultrahigh pressures. <i>JETP Letters</i> , 2012 , 94, 748-752	1.2	6
43	High-pressure study of tetramethylsilane by Raman spectroscopy. <i>Journal of Chemical Physics</i> , 2012 , 136, 024503	3.9	8
42	Molecular structure of hydrazoic acid with hydrogen-bonded tetramers in nearly planar layers. <i>Journal of the American Chemical Society</i> , 2011 , 133, 12100-5	16.4	60
41	Conductive dense hydrogen. <i>Nature Materials</i> , 2011 , 10, 927-31	27	264
40	Pressure induced polymorphism in ammonium azide (NH ₄ N ₃). <i>Chemical Physics</i> , 2011 , 386, 41-44	2.3	36
39	High-spin-low-spin transition in magnesiowüstite (Mg _{0.75} Fe _{0.25})O at high pressures under hydrostatic conditions. <i>JETP Letters</i> , 2010 , 90, 617-622	1.2	17
38	Exotic magnetism in the alkali sesquioxides Rb ₄ O ₆ and Cs ₄ O ₆ . <i>Physical Review B</i> , 2009 , 79,	3.3	22
37	Phase stability of lithium azide at pressures up to 60 GPa. <i>Journal of Physics Condensed Matter</i> , 2009 , 21, 195404	1.8	49
36	Transparent dense sodium. <i>Nature</i> , 2009 , 458, 182-5	50.4	584

35	Evidence of maximum in the melting curve of hydrogen at megabar pressures. <i>JETP Letters</i> , 2009 , 89, 174-179	1.2	60
34	Electronic and magnetic phase diagram of beta-Fe(1.01)Se with superconductivity at 36.7 K under pressure. <i>Nature Materials</i> , 2009 , 8, 630-3	27	852
33	Superconductivity in hydrogen dominant materials: silane. <i>Science</i> , 2008 , 319, 1506-9	33.3	302
32	Transformation from molecular to polymeric nitrogen at high pressures and temperatures: In situ x-ray diffraction study. <i>Applied Physics Letters</i> , 2008 , 93, 091907	3.4	13
31	Pressure-induced hydrogen-dominant metallic state in aluminum hydride. <i>Physical Review Letters</i> , 2008 , 100, 045504	7.4	111
30	Equation of state and structural transition at high hydrostatic pressures in the BiFeO ₃ crystal. <i>JETP Letters</i> , 2007 , 86, 197-201	1.2	32
29	Single-crystalline polymeric nitrogen. <i>Applied Physics Letters</i> , 2007 , 90, 171904	3.4	64
28	Equation of state and high-pressure irreversible amorphization in Y ₃ Fe ₅ O ₁₂ . <i>JETP Letters</i> , 2006 , 83, 37-41	1.2	18
27	Studies of magnetic and optic properties of rare-earth gallo-ferroborates by Mössbauer and optical spectroscopy. <i>Physica B: Condensed Matter</i> , 2005 , 359-361, 1321-1323	2.8	2
26	High-pressure magnetic properties and P-T phase diagram of iron borate. <i>Journal of Experimental and Theoretical Physics</i> , 2005 , 100, 688	1	20
25	Irreversible electronic transition with possible metallization in Y ₃ Fe ₅ O ₁₂ at high pressure. <i>JETP Letters</i> , 2005 , 82, 603-608	1.2	17
24	Magnetic collapse in yttrium iron garnet Y ₃ Fe ₅ O ₁₂ at high pressure. <i>JETP Letters</i> , 2005 , 82, 702-707	1.2	19
23	Optical transitions in GdFe ₃ (BO ₃) ₄ and FeBO ₃ under high pressures. <i>Journal of Physics Condensed Matter</i> , 2005 , 17, 7599-7604	1.8	7
22	The strength of diamond. <i>Applied Physics Letters</i> , 2005 , 87, 141902	3.4	68
21	Polymerization of nitrogen in sodium azide. <i>Journal of Chemical Physics</i> , 2004 , 120, 10618-23	3.9	120
20	Structural transformation of molecular nitrogen to a single-bonded atomic state at high pressures. <i>Journal of Chemical Physics</i> , 2004 , 121, 11296-300	3.9	145
19	Single-bonded cubic form of nitrogen. <i>Nature Materials</i> , 2004 , 3, 558-63	27	639
18	The mechanism of suppression of strong electron correlations in FeBO ₃ at high pressures. <i>Journal of Experimental and Theoretical Physics</i> , 2004 , 99, 566-573	1	28

17	Resonant Raman scattering in superconducting $\text{Ba}_{1-x}\text{KxBiO}_3$. <i>JETP Letters</i> , 2003 , 77, 521-525	1.2	4
16	Electronic and structural transitions in NdFeO_3 orthoferrite under high pressures. <i>JETP Letters</i> , 2003 , 77, 619-624	1.2	34
15	Transport and optical properties of iron borate FeBO_3 under high pressures. <i>JETP Letters</i> , 2003 , 78, 13-16	2.0	20
14	Equation of state and structural phase transition in FeBO_3 at high pressure. <i>JETP Letters</i> , 2002 , 75, 23-25	1.2	15
13	Magnetic collapse and the change of electronic structure of FeBO_3 antiferromagnet under high pressure. <i>JETP Letters</i> , 2002 , 76, 664-669	1.2	21
12	Interplay between the structure and properties of new metastable carbon phases obtained under high pressures from fullerite C_{60} and carbyne. <i>JETP Letters</i> , 2002 , 76, 681-692	1.2	27
11	The effect of high pressure on the structure and on the magnetic and electronic properties of nickel monoxide. <i>Journal of Experimental and Theoretical Physics</i> , 2001 , 92, 696-700	1	6
10	Transition from the antiferromagnetic to a nonmagnetic state in FeBO_3 under high pressure. <i>JETP Letters</i> , 2001 , 74, 24-27	1.2	17
9	Elastic properties of superhard amorphous carbon pressure-synthesized from C_{60} by surface Brillouin scattering. <i>Physical Review B</i> , 2001 , 64,	3.3	28
8	Electronic structure of InAs/GaAs self-assembled quantum dots studied by perturbation spectroscopy. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2000 , 6, 348-357	3	8
7	Anharmonicity of short-wavelength acoustic phonons in silicon at high temperatures. <i>JETP Letters</i> , 2000 , 72, 195-198	1.2	12
6	Effect of high pressures on exchange and hyperfine interactions in rare-earth orthoferrites. <i>Journal of Experimental and Theoretical Physics</i> , 2000 , 90, 330-340	1	5
5	High pressure studies of magnetic, electronic, and local structure properties in the rare-earth orthoferrites RFeO_3 ($\text{R} = \text{Nd, Lu}$) 2000 , 126, 305-311		10
4	Non-Traditional Carbon Semiconductors Prepared from Fullerite C_{60} and Carbyne under High Pressure. <i>Physica Status Solidi (B): Basic Research</i> , 1999 , 211, 401-412	1.3	37
3	Excited States in Self-Assembled InAs/GaAs Quantum Dots under High Pressure. <i>Physica Status Solidi (B): Basic Research</i> , 1999 , 211, 73-77	1.3	6
2	Excited states and selection rules in self-assembled InAs/GaAs quantum dots. <i>Physical Review B</i> , 1999 , 60, R2185-R2188	3.3	57
1	Pressure-Tuned Resonance Raman Scattering in InAs/GaSb Superlattices. <i>Physica Status Solidi (B): Basic Research</i> , 1996 , 198, 321-327	1.3	5