

# Ãscar Gomis

## List of Publications by Year in descending order

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88  
papers

2,750  
citations

159525

30  
h-index

214721

47  
g-index

90  
all docs

90  
docs citations

90  
times ranked

2744  
citing authors

#	ARTICLE	IF	CITATIONS
1	Structural and vibrational study of Bi <sub>2</sub> Se <sub>3</sub> . Physical Review B, 2011, 84, .	1.1	138
2	High-pressure vibrational and optical study of barite at high pressures. Physical Review B, 2011, 84, .	1.1	108
3	High-pressure x-ray diffraction and $\mu$ SR study of Ni <sub>2</sub> Pd <sub>2</sub> . Physical Review B, 2011, 84, .	1.1	100
4	High-pressure Raman spectroscopy and lattice-dynamics calculations on scintillating MgWO <sub>4</sub> . Physical Review B, 2010, 82, .	1.1	91
5	High-pressure studies of topological insulators Bi <sub>2</sub> Se <sub>3</sub> , Bi <sub>2</sub> Te <sub>3</sub> , and Sb <sub>2</sub> Te <sub>3</sub> . Physica Status Solidi (B): Basic Research, 2013, 250, 669-676.	1.1	78
6	Hydrogen peroxide formation by ion implantation in water ice and its relevance to the Galilean satellites. Planetary and Space Science, 2004, 52, 371-378.	0.9	73
7	Structural, Vibrational, and Electronic Study of Sb <sub>2</sub> S <sub>3</sub> at High Pressure. Journal of Physical Chemistry C, 2016, 120, 10547-10558.	1.5	73
8	High-pressure study of the behavior of mineral barite by x-ray diffraction. Physical Review B, 2011, 84, .	1.1	71
9	Complex high-pressure polymorphism of barium tungstate. Physical Review B, 2012, 86, .	1.1	66
10	New Polymorph of InVO <sub>4</sub> : A High-Pressure Structure with Six-Coordinated Vanadium. Inorganic Chemistry, 2013, 52, 12790-12798.	1.9	63
11	High-Pressure Crystal Structure, Lattice Vibrations, and Band Structure of BiSbO <sub>4</sub> . Inorganic Chemistry, 2016, 55, 4958-4969.	1.9	60
12	Isostructural Second-Order Phase Transition of $\hat{\Gamma}^2$ -Bi <sub>2</sub> O <sub>3</sub> at High Pressures: An Experimental and Theoretical Study. Journal of Physical Chemistry C, 2014, 118, 23189-23201.	1.5	59
13	Hydrogen peroxide production by ion irradiation of thin water ice films. Astronomy and Astrophysics, 2004, 420, 405-410.	2.1	55
14	High-pressure lattice dynamical study of bulk and nanocrystalline In <sub>2</sub> O <sub>3</sub> . Journal of Applied Physics, 2012, 112, .	1.1	55
15	Exploring the high-pressure behavior of the three known polymorphs of BiPO <sub>4</sub> : Discovery of a new polymorph. Journal of Applied Physics, 2015, 117, .	1.1	55
16	Implantation of carbon and nitrogen ions in water ice. Icarus, 2003, 164, 163-169.	1.1	53
17	CO <sub>2</sub> production by ion irradiation of H <sub>2</sub> O ice on top of carbonaceous materials and its relevance to the Galilean satellites. Icarus, 2005, 177, 570-576.	1.1	46

#	ARTICLE	IF	CITATIONS
19	Theoretical and experimental study of the structural stability of $TbPO_4$ at high pressures. <i>Physical Review B</i> , 2010, 81, .	1.1	46
20	High-pressure optical and vibrational properties of CdGa <sub>2</sub> Se <sub>4</sub> : Order-disorder processes in adamantine compounds. <i>Journal of Applied Physics</i> , 2012, 111, .	1.1	46
21	Experimental and Theoretical Study of Bi <sub>2</sub> O <sub>2</sub> Se Under Compression. <i>Journal of Physical Chemistry C</i> , 2018, 122, 8853-8867.	1.5	46
22	Synthesis of a Novel Zeolite through a Pressure-Induced Reconstructive Phase Transition Process. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 10458-10462.	7.2	45
23	Compression of Silver Sulfide: X-ray Diffraction Measurements and Total-Energy Calculations. <i>Inorganic Chemistry</i> , 2012, 51, 5289-5298.	1.9	44
24	High-pressure structural, elastic, and thermodynamic properties of zircon-type HoPO <sub>4</sub> and TmPO <sub>4</sub> . <i>Journal of Physics Condensed Matter</i> , 2017, 29, 095401.	0.7	43
25	Structural study of $\hat{1}\pm$ -Bi <sub>2</sub> O <sub>3</sub> under pressure. <i>Journal of Physics Condensed Matter</i> , 2013, 25, 475402.	0.7	42
26	H-implantation in SO <sub>2</sub> and CO <sub>2</sub> ices. <i>Planetary and Space Science</i> , 2008, 56, 1300-1308.	0.9	40
27	Hydrate sulfuric acid after sulfur implantation in water ice. <i>Icarus</i> , 2007, 192, 623-628.	1.1	39
28	X-ray diffraction study on pressure-induced phase transformations and the equation of state of ZnGa <sub>2</sub> Te <sub>4</sub> . <i>Journal of Applied Physics</i> , 2013, 114, .	1.1	37
29	Structural, Vibrational, and Electronic Study of $\hat{1}\pm$ -As <sub>2</sub> Te <sub>3</sub> under Compression. <i>Journal of Physical Chemistry C</i> , 2016, 120, 19340-19352.	1.5	37
30	Structural and elastic properties of defect chalcopyrite HgGa <sub>2</sub> S <sub>4</sub> under high pressure. <i>Journal of Alloys and Compounds</i> , 2014, 583, 70-78.	2.8	32
31	Characterization and Decomposition of the Natural van der Waals SnSb <sub>2</sub> Te <sub>4</sub> under Compression. <i>Inorganic Chemistry</i> , 2020, 59, 9900-9918.	1.9	31
32	Ordered helium trapping and bonding in compressed arsenolite: Synthesis of $A_sO_6$ He <sub>2</sub> . <i>Physical Review B</i> , 2016, 93, .	1.1	29
33	Production of Oxidants by Ion Irradiation of Water/Carbon Dioxide Frozen Mixtures. <i>Astrobiology</i> , 2005, 5, 612-621.	1.5	28
34	High-pressure study of the structural and elastic properties of defect-chalcopyrite HgGa <sub>2</sub> Se <sub>4</sub> . <i>Journal of Applied Physics</i> , 2013, 113, .	1.1	28
35	Structural and electrical study of the topological insulator SnBi <sub>2</sub> Te <sub>4</sub> at high pressure. <i>Journal of Alloys and Compounds</i> , 2016, 685, 962-970.	2.8	28
36	High-pressure structural and vibrational properties of monazite-type BiPO <sub>4</sub> , LaPO <sub>4</sub> , CePO <sub>4</sub> , and PrPO <sub>4</sub> . <i>Journal of Physics Condensed Matter</i> , 2018, 30, 065401.	0.7	28

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37	Nonlinear pressure dependence of the direct band gap in adamantine ordered-vacancy compounds. Physical Review B, 2010, 81, .	1.1	27
38	<i>Pbca</i> -Type $\text{In}_2\text{O}_3$ : The High-Pressure Post-Corundum phase at Room Temperature.. Journal of Physical Chemistry C, 2014, 118, 20545-20552.	1.5	27
39	Structural and Lattice-Dynamical Properties of $\text{Tb}_2\text{O}_3$ under Compression: A Comparative Study with Rare Earth and Related Sesquioxides. Inorganic Chemistry, 2020, 59, 9648-9666.	1.9	26
40	Ion irradiation of astrophysical ices. Journal of Physics: Conference Series, 2008, 101, 012002.	0.3	25
41	Structural, vibrational, and electrical study of compressed BiTeBr. Physical Review B, 2016, 93, .	1.1	25
42	Broadband, site selective and time resolved photoluminescence spectroscopic studies of finely size-modulated $\text{Y}_2\text{O}_3:\text{Eu}^{3+}$ phosphors synthesized by a complex based precursor solution method. Current Applied Physics, 2014, 14, 72-81.	1.1	24
43	New high-pressure phase and equation of state of $\text{Ce}_2\text{Zr}_2\text{O}_8$ . Journal of Applied Physics, 2012, 111, .	1.1	23
44	Vibrational study of $\text{HgGa}_2\text{S}_4$ under high pressure. Journal of Applied Physics, 2013, 113, .	1.1	23
45	Phase Behavior of $\text{Ag}_2\text{CrO}_4$ under Compression: Structural, Vibrational, and Optical Properties. Journal of Physical Chemistry C, 2013, 117, 12239-12248.	1.5	23
46	Synthesis and High-Pressure Study of Corundum-Type $\text{In}_2\text{O}_3$ . Journal of Physical Chemistry C, 2015, 119, 29076-29087.	1.5	23
47	Experimental and Theoretical Investigations on Structural and Vibrational Properties of Melilite-Type $\text{Sr}_2\text{ZnGe}_2\text{O}_7$ at High Pressure and Delineation of a High-Pressure Monoclinic Phase. Inorganic Chemistry, 2015, 54, 6594-6605.	1.9	23
48	Raman scattering study of bulk and nanocrystalline $\text{PbMoO}_4$ at high pressures. Journal of Applied Physics, 2012, 112, 103510.	1.1	22
49	Room-temperature vibrational properties of multiferroic $\text{MnWO}_4$ under quasi-hydrostatic compression up to 39â€‰GPa. Journal of Applied Physics, 2014, 115, 043510.	1.1	22
50	Compressibility Systematics of Calcite-Type Borates: An Experimental and Theoretical Structural Study on $\text{ABO}_3$ (A = Al, Sc, Fe, and In). Journal of Physical Chemistry C, 2014, 118, 4354-4361.	1.5	22
51	Lattice Dynamics Study of $\text{HgGa}_2\text{Se}_4$ at High Pressures. Journal of Physical Chemistry C, 2013, 117, 15773-15781.	1.5	21
52	Pressure effects on the vibrational properties of <i>P63</i> - $\text{Bi}_2\text{O}_3$ : an experimental and theoretical study. Journal of Physics Condensed Matter, 2014, 26, 225401.	0.7	21
53	Ion irradiation of $\text{H}_2\text{O}$ ice on top of sulfurous solid residues and its relevance to the Galilean satellites. Icarus, 2008, 194, 146-152.	1.1	20
54	High-pressure structural and elastic properties of $\text{Ti}_2\text{O}_3$ . Journal of Applied Physics, 2014, 116, .	1.1	20

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55	Orpiment under compression: metavalent bonding at high pressure. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 3352-3369.	1.3	20
56	Pressure-induced amorphization of YVO <sub>4</sub> ·Eu <sup>3+</sup> nanoboxes. <i>Nanotechnology</i> , 2016, 27, 025701.	1.3	19
57	Crystal structure of HgGa <sub>2</sub> Se <sub>4</sub> under compression. <i>Materials Research Bulletin</i> , 2013, 48, 2128-2133.	2.7	18
58	Quasi-hydrostatic X-ray powder diffraction study of the low- and high-pressure phases of CaWO <sub>4</sub> up to 28 ÅGPa. <i>Solid State Sciences</i> , 2014, 36, 16-23.	1.5	18
59	Pressure Impact on the Stability and Distortion of the Crystal Structure of CeScO <sub>3</sub> . <i>Inorganic Chemistry</i> , 2017, 56, 8363-8371.	1.9	18
60	The origin of sulfur-bearing species on the surfaces of icy satellites. <i>Advances in Space Research</i> , 2009, 43, 1442-1445.	1.2	17
61	Compressibility and structural stability of ultra-incompressible bimetallic interstitial carbides and nitrides. <i>Physical Review B</i> , 2012, 85, .	1.1	17
62	High-pressure Raman scattering study of defect chalcopyrite and defect stannite ZnGa <sub>2</sub> Se <sub>4</sub> . <i>Journal of Applied Physics</i> , 2013, 113, 233501.	1.1	17
63	High-pressure structural phase transition in $MnWO_4$ . <i>Physical Review B</i> , 2015, 91, .	1.1	16
64	High-pressure structural and lattice dynamical study of $B_2O_3$ under compression: Optical and elastic properties and electron density topology analysis. <i>Physical Review B</i> , 2010, 82, .	1.1	16
65	Elastic and thermodynamic properties of $\hat{1}\pm$ -Bi <sub>2</sub> O <sub>3</sub> at high pressures: Study of mechanical and dynamical stability. <i>Journal of Physics and Chemistry of Solids</i> , 2019, 124, 111-120.	1.9	16
66	HgGa <sub>2</sub> Se <sub>4</sub> under high pressure: An optical absorption study. <i>Physica Status Solidi (B): Basic Research</i> , 2015, 252, 2043-2051.	0.7	13
67	Production of Oxidants by Ion Bombardment of Icy Moons in the Outer Solar System. <i>Advances in Astronomy</i> , 2011, 2011, 1-10.	0.5	12
68	Thermally activated cation ordering in ZnGa <sub>2</sub> Se <sub>4</sub> single crystals studied by Raman scattering, optical absorption, and <i>ab initio</i> calculations. <i>Journal of Physics Condensed Matter</i> , 2013, 25, 165802.	0.7	12
69	Order–disorder processes in adamantine ternary ordered–vacancy compounds. <i>Physica Status Solidi (B): Basic Research</i> , 2013, 250, 1496-1504.	0.7	12
70	High-pressure structural and lattice dynamical study of $HgWO_4$ . <i>Physical Review B</i> , 2010, 82, .	1.1	11
71	Phase Stability of Natural Ni <sub>0.75</sub> Mg <sub>0.22</sub> Ca <sub>0.03</sub> CO <sub>3</sub> Gaspete Mineral at High Pressure and Temperature. <i>Journal of Physical Chemistry C</i> , 2020, 124, 19781-19792.	1.5	9
72	Structural and Vibrational Properties of CdAl <sub>2</sub> S <sub>4</sub> under High Pressure: Experimental and Theoretical Approach. <i>Journal of Physical Chemistry C</i> , 2014, 118, 15363-15374.	1.5	8

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73	InBO3 and ScBO3 at high pressures: An ab initio study of elastic and thermodynamic properties. Journal of Physics and Chemistry of Solids, 2016, 98, 198-208.	1.9	8
74	Vibrational and elastic properties of As4O6 and As4O6·2He at high pressures: Study of dynamical and mechanical stability. Journal of Applied Physics, 2016, 120, .	1.1	8
75	Structural, vibrational and electronic properties of $\text{In}^{2+}\text{-Ga}_2\text{S}_3$ under compression. Physical Chemistry Chemical Physics, 2021, 23, 6841-6862.	1.3	8
76	Structural and Vibrational Study of Pseudocubic $\text{CdIn}_2\text{Se}_4$ under Compression. Journal of Physical Chemistry C, 2014, 118, 26987-26999.	1.5	7
77	Vibrational properties of $\text{CdGa}_2\text{S}_4$ at high pressure. Journal of Applied Physics, 2019, 125, .	1.1	7
78	Bandgap behavior and singularity of the domain-induced light scattering through the pressure-induced ferroelectric transition in relaxor ferroelectric $\text{AxBa}_{1-x}\text{Nb}_2\text{O}_6$ (A: Sr,Ca). Applied Physics Letters, 2018, 112, 042901.	1.5	6
79	Pressure-induced band anticrossing in two adamantane ordered-vacancy compounds: $\text{CdGa}_2\text{S}_4$ and $\text{HgGa}_2\text{S}_4$ . Journal of Alloys and Compounds, 2021, 886, 161226.	2.8	6
80	Crystal Structure of Sinhalite $\text{MgAlBO}_4$ under High Pressure. Journal of Physical Chemistry C, 2015, 119, 6777-6784.	1.5	5
81	Experimental and theoretical study of dense $\text{YBO}_3$ and the influence of non-hydrostaticity. Journal of Alloys and Compounds, 2021, 850, 156562.	2.8	5
82	$\text{AB}_2\text{Se}_4$ Ordered-Vacancy Compounds at High Pressures. Springer Series in Materials Science, 2014, , 163-184.	0.4	5
83	Pressure-induced order-disorder transitions in $\text{In}_2\text{S}_3$ : an experimental and theoretical study of structural and vibrational properties. Physical Chemistry Chemical Physics, 2021, 23, 23625-23642.	1.3	3
84	High-Pressure Synthesis of $\text{In}_2\text{-In}_2\text{Se}_3$ -Like Structures in $\text{Ga}_2\text{S}_3$ . Chemistry of Materials, 2022, 34, 6068-6086.	3.2	3
85	Infrared studies at the ice laboratory of Alcoy. Planetary and Space Science, 2008, 56, 1744-1747.	0.9	1
86	High-pressure theoretical and experimental study of $\text{HgWO}_4$ . High Pressure Research, 2011, 31, 58-63.	0.4	1
87	Transition path to a dense efficient-packed post-delafossite phase. Crystal structure and evolution of the chemical bonding. Journal of Alloys and Compounds, 2021, 867, 159012.	2.8	1
88	Astrolaboratory in Alcoi for Astrobiology Studies. , 2006, , .		0