

Matt Beekman

List of Publications by Year in descending order

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64
papers

2,023
citations

304701

22
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243610

44
g-index

70
all docs

70
docs citations

70
times ranked

2156
citing authors

#	ARTICLE	IF	CITATIONS
1	Teaching basic crystallography and diffraction using open access structure visualization software. MRS Advances, 2022, 7, 482-487.	0.9	6
2	Thermal and mechanical properties of the clathrate-II $\text{Na}_{24}\text{Si}_{12}\text{P}_{12}$. Physical Review B, 2022, 105, .	3.24	12
3	Potential error from using $\langle i \rangle ZT \langle /i \rangle$ to optimize thermoelectric performance. AIP Advances, 2021, 11, .	1.3	2
4	Material considerations for thermoelectric enhancement via modulation doping. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	1
5	Structural, Electronic, and Thermal Properties of CdSnAs_2 . Inorganic Chemistry, 2020, 59, 3079-3084.	4.0	5
6	Zintl Phases as Reactive Precursors for Synthesis of Novel Silicon and Germanium-Based Materials. Materials, 2019, 12, 1139.	2.9	38
7	Thermoelectrics: From history, a window to the future. Materials Science and Engineering Reports, 2019, 138, 100501.	31.8	341
8	Control of thermal expansion in a low-density framework modification of silicon. Applied Physics Letters, 2018, 112, 181901.	3.3	5
9	Comparison of Predicted Thermoelectric Energy Conversion Efficiency by Cumulative Properties and Reduced Variables Approaches. Journal of Electronic Materials, 2018, 47, 3085-3090.	2.2	2
10	High-temperature thermal conductivity of thermoelectric clathrates. Journal of Applied Physics, 2017, 121, .	2.5	10
11	Inorganic Crystals with Glass-Like and Ultralow Thermal Conductivities. Crystal Research and Technology, 2017, 52, 1700114.	1.3	66
12	Estimating Energy Conversion Efficiency of Thermoelectric Materials: Constant Property Versus Average Property Models. Journal of Electronic Materials, 2017, 46, 6-13.	2.2	21
13	Binary Alkali-Metal Silicon Clathrates by Spark Plasma Sintering: Preparation and Characterization. Materials, 2016, 9, 593.	2.9	8
14	Clathrates and beyond: Low-density allotropy in crystalline silicon. Applied Physics Reviews, 2016, 3, .	11.3	24
15	Confined lattice dynamics of single and quadruple $\text{SnSe}_{1.04}\text{M}_n$ [MoSe_2] $_n$ ferecrystals. Nanoscale, 2016, 8, 856-861.	5.6	2
16	Influence of composition and processing parameters on the properties of solution-processed aluminum phosphate oxide (AlPO) thin films. Solid State Sciences, 2016, 55, 8-12.	3.2	14
17	In-plane structure of ferecrystalline compounds. Crystal Research and Technology, 2015, 50, 464-472.	1.3	32
18	Preparation, Formation, and Structure of $[(\text{SnSe}_{1.04})_m(\text{MoSe}_2)_n]_x$ Intergrowth Compounds ($0 < m < /i >$ and $< i > n < /i > < /sub > 32$) from Designed Precursors. Inorganic Chemistry, 2015, 54, 1091-1099.	4.0	7

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19	Detection of nanoscale embedded layers using laboratory specular X-ray diffraction. <i>Journal of Applied Physics</i> , 2015, 117, 185306.	2.5	5
20	Synthesis and Thermal Properties of Solid-State Structural Isomers: Ordered Intergrowths of SnSe and MoSe ₂ . <i>Journal of the American Chemical Society</i> , 2015, 137, 8803-8809.	13.7	23
21	Precursor Routes to Complex Ternary Intermetallics: Single-Crystal and Microcrystalline Preparation of Clathrate-I Na ₈ Al ₈ Si ₃₈ from NaSi + NaAlSi. <i>Inorganic Chemistry</i> , 2015, 54, 5316-5321.	4.0	21
22	New hopes for allotropes. <i>Materials Today</i> , 2015, 18, 304-305.	14.2	18
23	Better thermoelectrics through glass-like crystals. <i>Nature Materials</i> , 2015, 14, 1182-1185.	27.5	212
24	Low-Temperature ²³ Na MAS NMR Reveals Dynamic Effects and Compositions for the Large and Small Channels in the Zeolite-Like Ge-Framework of Na ₄ Ge ₃ Materials. <i>Journal of Physical Chemistry C</i> , 2014, 118, 28890-28897.	3.1	4
25	Synthesis, structure, and thermal conductivity of [(SnSe) ₁ + _n] [MoSe ₂] _n compounds. <i>Semiconductor Science and Technology</i> , 2014, 29, 124007.	2.0	11
26	Ferrecrystals: non-epitaxial layered intergrowths. <i>Semiconductor Science and Technology</i> , 2014, 29, 064012.	2.0	50
27	Mentoring Graduate Students in Research and Teaching by Utilizing Research as a Template. <i>Journal of Chemical Education</i> , 2014, 91, 200-205.	2.3	8
28	Raman Spectroscopy Insights into the Size-Induced Structural Transformation in SnSe Nanolayers. <i>Langmuir</i> , 2014, 30, 8209-8214.	3.5	14
29	Telluride Misfit Layer Compounds: [(PbTe) _{1.17}] _m (TiTe ₂) _n . <i>Angewandte Chemie - International Edition</i> , 2014, 53, 5672-5675.	13.8	30
30	Synthetic Approaches to Intermetallic Clathrates. <i>Springer Series in Materials Science</i> , 2014, , 65-90.	0.6	2
31	Inorganic Clathrates for Thermoelectric Applications. <i>Springer Series in Materials Science</i> , 2014, , 169-191.	0.6	15
32	Characterization of Nonstoichiometric Ti _{1+x} Se ₂ Prepared by the Method of Modulated Elemental Reactants. <i>Journal of Electronic Materials</i> , 2013, 42, 1647-1651.	2.2	4
33	Synthesis, Structure, and Properties of Turbostratically Disordered (PbSe) _{1.18} (TiSe ₂) ₂ . <i>Chemistry of Materials</i> , 2013, 25, 2404-2409.	6.7	51
34	Influence of guest loading on thermal properties of Na _x Si ₁₃₆ clathrates. <i>Journal of Physics Condensed Matter</i> , 2013, 25, 435401.	1.8	5
35	Controlling Size-Induced Phase Transformations Using Chemically Designed Nanolaminates. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 13211-13214.	13.8	33
36	Structural and electrical properties of (PbSe) ₁ ·16TiSe ₂ . <i>Emerging Materials Research</i> , 2012, 1, 292-298.	0.7	22

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37	Structure of Turbostratically Disordered Misfit Layer Compounds $[(\text{PbSe})_{0.99}]_1[\text{WSe}_2]_1$, $[(\text{PbSe})_{1.00}]_1[\text{MoSe}_2]_1$, and $[(\text{SnSe})_{1.03}]_1[\text{MoSe}_2]_1$. <i>Zeitschrift Fur Anorganische Und Allgemeine Chemie</i> , 2012, 638, 2632-2638.	1.2	27
38	New Layered Intergrowths in the Sn-Mo-Se System. <i>Journal of Electronic Materials</i> , 2012, 41, 1476-1480.	2.2	27
39	Simple Approach for Selective Crystal Growth of Intermetallic Clathrates. <i>Chemistry of Materials</i> , 2011, 23, 1491-1495.	6.7	52
40	New Compounds Consisting of Turbostratic Intergrowths: Ultra-low Thermal Conductivities and Tunable Electric Properties. <i>Materials Research Society Symposia Proceedings</i> , 2011, 1329, 1.	0.1	3
41	Probing the Effects of Alloying, Grain Size, and Turbostratic Disorder on Thermal Conductivity. <i>Science of Advanced Materials</i> , 2011, 3, 639-645.	0.7	19
42	Tunable dielectric thin films by aqueous, inorganic solution-based processing. <i>Solid State Sciences</i> , 2011, 13, 2037-2040.	3.2	18
43	Synthesis of four new members of the $(\text{PbSe})_{1.16}(\text{TiSe})_n$ ($n = 1, 2, 3, \text{ and } 4$) Family of ferecrystals. , 2011, , .		2
44	Influence of selenium vapor postannealing on the electrical transport properties of PbSe/WSe_2 nanolaminates. <i>Journal of Materials Research</i> , 2011, 26, 1866-1871.	2.6	18
45	Structure and thermal conductivity of $\text{Na}^{1+}\text{Ge}_3^+$. <i>Journal of Solid State Chemistry</i> , 2010, 183, 1272-1277.	2.9	11
46	In-plane thermal and thermoelectric properties of misfit-layered $[(\text{PbSe})_{0.99}]_x(\text{WSe}_2)_x$ superlattice thin films. <i>Applied Physics Letters</i> , 2010, 96, .	3.3	38
47	A study of low-energy guest phonon modes in clathrate-II $\text{Na}_x\text{Si}_{136}$ ($x = 3, 23, \text{ and } 24$). <i>Journal of Physics Condensed Matter</i> , 2010, 22, 355401.	1.8	15
48	Framework Contraction in Na-Stuffed Si_{136} . <i>Inorganic Chemistry</i> , 2010, 49, 5338-5340.	4.0	52
49	Characterization of delafossite-type CuCoO_2 prepared by ion exchange. <i>Journal of Alloys and Compounds</i> , 2010, 489, 336-338.	5.5	55
50	X-ray absorption spectroscopy studies of local structure and electronic properties of $\text{Na}_x\text{Si}_{136}$. <i>Journal of Physics Condensed Matter</i> , 2010, 22, 355401.		

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55	Preparation and Crystal Growth of Na ₂₄ Si ₁₃₆ . Journal of the American Chemical Society, 2009, 131, 9642-9643.	13.7	91
56	Inorganic clathrate-II materials of group 14: synthetic routes and physical properties. Journal of Materials Chemistry, 2008, 18, 842-851.	6.7	176
57	Synthesis and Characterization of Inorganic Clathrate-II Materials. Materials Research Society Symposia Proceedings, 2007, 1044, 1.	0.1	3
58	Synthesis and crystal structure of Na _{1-x} Ge _{3+z} : a novel zeolite-like framework phase in the Na-Ge system. Chemical Communications, 2007, , 837-839.	4.1	22
59	Synthesis and single-crystal X-ray diffraction studies of new framework substituted type II clathrates, Cs ₈ Na ₁₆ Ag _x Ge _{136-x} (x < 7). Journal of Solid State Chemistry, 2007, 180, 1076-1082.	2.9	33
60	Transport Properties of the Binary Type I Clathrate K ₈ Ge ₄₄ -j ₂ . International Journal of Applied Ceramic Technology, 2007, 4, 332-338.	2.1	20
61	Synthesis and Characterization of Bulk and Thin Film Clathrates for Solid State Power Conversion Applications. , 2006, , .		1
62	Synthesis and thermal conductivity of type II silicon clathrates. Physica B: Condensed Matter, 2006, 383, 111-114.	2.7	50
63	Thermal conductivity of elemental crystalline silicon clathrate Si ₁₃₆ . Applied Physics Letters, 2003, 82, 910-912.	3.3	98
64	Methods of Electron Crystallography as Tools for Materials Analysis. Solid State Phenomena, 0, 186, 1-6.	0.3	1