Bengt Hallstedt

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Thermodynamic Assessment of the System MgO-Al2O3. Journal of the American Ceramic Society, 1992, 75, 1497-1507.	3.8	225
2	Assessment of the CaO-Al2O3 System. Journal of the American Ceramic Society, 1990, 73, 15-23.	3.8	213
3	Free energy of bcc iron: Integrated <i>ab initio</i> derivation of vibrational, electronic, and magnetic contributions. Physical Review B, 2008, 78, .	3.2	188
4	On the deformation behavior of κ-carbide-free and κ-carbide-containing high-Mn light-weight steel. Acta Materialia, 2017, 122, 332-343.	7.9	153
5	Combining thermodynamic modeling and 3D printing of elemental powder blends for high-throughput investigation of high-entropy alloys – Towards rapid alloy screening and design. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 688, 180-189.	5.6	145
6	Thermodynamic assessment of the Co-O system. Journal of Phase Equilibria and Diffusion, 2003, 24, 212-227.	0.3	126
7	Thermodynamic modeling of the ZrO2–YO1.5 system. Solid State Ionics, 2004, 170, 255-274.	2.7	115
8	Interface formation in aluminium–aluminium compound casting. Acta Materialia, 2008, 56, 3036-3043.	7.9	105
9	Thermodynamic assessment of the copper-oxygen system. Journal of Phase Equilibria and Diffusion, 1994, 15, 483-499.	0.3	99
10	The compound energy model for ionic solutions with applications to solid oxides. Journal of Phase Equilibria and Diffusion, 1992, 13, 459-475.	0.3	88
11	Thermodynamic assessment of the Fe–Mn–C system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2011, 35, 479-491.	1.6	86
12	Low-Density Steels: Complex Metallurgy for Automotive Applications. Jom, 2014, 66, 1747-1758.	1.9	86
13	The bismuth-oxygen system. Journal of Phase Equilibria and Diffusion, 1995, 16, 223.	0.3	80
14	Oxidation of Cr2AlC coatings in the temperature range of 1230 to 1410°C. Surface and Coatings Technology, 2011, 206, 591-598.	4.8	80
15	Thermodynamic Assessment of the Silver–Oxygen System. Journal of the American Ceramic Society, 1997, 80, 3054-3060.	3.8	78
16	On the microstructure formation in chromium steels rapidly cooled from the semi-solid state. Acta Materialia, 2007, 55, 1033-1042.	7.9	72
17	Thermodynamic properties of cementite (). Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2010, 34, 129-133.	1.6	72
18	Viscosity of Al–Cu liquid alloys: measurement and thermodynamic description. Journal of Materials Science, 2012, 47, 8145-8152.	3.7	71

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19	Thermodynamic description of the Al–C–Ti system. Journal of Alloys and Compounds, 2015, 623, 480-496.	5.5	67
20	Revision of the thermodynamic descriptions of the Cu–O, Ag–O, Ag–Cu–O, Bi–Sr–O, Bi–Ca–O, Bi–Cu–O, Sr–Cu–O, Ca–Cu–O and Sr–Ca–Cu–O systems. Calphad: Computer Coupling of Pha Diagrams and Thermochemistry, 2003, 27, 177-191.	a se 6	64
21	On the microstructure and properties of 100Cr6 steel processed in the semi-solid state. Acta Materialia, 2007, 55, 6553-6560.	7.9	63
22	Thermodynamic assessment of the lanthanum-oxygen system. Journal of Phase Equilibria and Diffusion, 2001, 22, 105-113.	0.3	60
23	Fibre-matrix interactions during fabrication of Al2O3î—,Mg metal matrix composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1990, 129, 135-145.	5.6	56
24	Thermodynamic modelling of crystalline unary phases. Physica Status Solidi (B): Basic Research, 2014, 251, 14-32.	1.5	55
25	A thermodynamic evaluation of the Fe–Cr–C system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2014, 46, 24-33.	1.6	54
26	Thermodynamic assessment of the Al–Li system. International Journal of Materials Research, 2007, 98, 961-969.	0.3	53
27	Thermodynamic assessment of the Silicon — Oxygen system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1992, 16, 53-61.	1.6	51
28	Thermodynamic models for crystalline phases. Composition dependent models for volume, bulk modulus and thermal expansion. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2007, 31, 28-37.	1.6	51
29	Thermodynamic assessment of the Mn–C system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2010, 34, 279-285.	1.6	49
30	Density and thermal expansion of liquid Al–Si alloys. Journal of Materials Science, 2012, 47, 3706-3712.	3.7	48
31	CeO ₂ â^CoO Phase Diagram. Journal of the American Ceramic Society, 2003, 86, 1567-1570.	3.8	47
32	Ab initio calculations and thermodynamic modeling for the Fe–Mn–Nb system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2012, 38, 43-58.	1.6	46
33	The strontium-oxygen system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1996, 20, 353-361.	1.6	45
34	Simulation of the solidification of CMSX-4. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 397, 385-390.	5.6	43
35	Assessment of the La–Sr–Mn–O system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2004, 28, 191-201.	1.6	42
36	Thermodynamic and Electrochemical Properties of the Li–Co–O and Li–Ni–O Systems. Chemistry of Materials, 2012, 24, 97-105.	6.7	42

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37	Thermodynamic calculation of some subsystems of the Al-Ca-Mg-Si-O system. Journal of Phase Equilibria and Diffusion, 1993, 14, 662-675.	0.3	40
38	Thermodynamic Evaluation of the Bi-Cu-O System. Journal of the American Ceramic Society, 1996, 79, 353-358.	3.8	39
39	Molar volumes of Al, Li, Mg and Si. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2007, 31, 292-302.	1.6	39
40	Interface structure, chemistry and properties of NiAl composites fabricated from matrix-coated single-crystalline Al2O3 fibres (sapphire) with and without an hBN interlayer. Acta Materialia, 2006, 54, 2473-2488.	7.9	36
41	Assessment of the La-Mn-O system. Journal of Phase Equilibria and Diffusion, 2005, 26, 131-151.	1.4	35
42	PrecHiMn-4—A thermodynamic database for high-Mn steels. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2017, 56, 49-57.	1.6	34
43	Modelling of acid and basic slags. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1994, 18, 31-37.	1.6	32
44	Critical current densities in Bi-2212 thick films. Physica C: Superconductivity and Its Applications, 1996, 257, 151-159.	1.2	32
45	Thermodynamic modeling of phase equilibria in the Mn–Y–Zr–O system. Solid State Ionics, 2005, 176, 1457-1464.	2.7	32
46	Thermodynamic description of the LiNiO2–NiO2 pseudo-binary system and extrapolation to the Li(Co,Ni)O2–(Co,Ni)O2 system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2012, 37, 100-107.	1.6	32
47	Development of thin film cathodes for lithium-ion batteries in the material system Li–Mn–O by r.f. magnetron sputtering. Thin Solid Films, 2013, 528, 217-223.	1.8	32
48	Modeling of Fe–W phase diagram using first principles and phonons calculations. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2015, 50, 92-104.	1.6	32
49	Using the PARROT module of Thermo-Calc with the Cr–Ni system as example. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2016, 55, 260-269.	1.6	32
50	Modeling of Coating Process, Phase Changes, and Damage of Plasma Sprayed Thermal Barrier Coatings on Niâ€Base Superalloys. Advanced Engineering Materials, 2010, 12, 110-126.	3.5	30
51	The Magnesium — Oxygen system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1993, 17, 281-286.	1.6	28
52	Thermodynamic description of the Fe–Mn–Nb–C system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2012, 39, 62-69.	1.6	28
53	Thermodynamic Assessment of the Ca-Cu-O System. Journal of the American Ceramic Society, 1995, 78, 2655-2661.	3.8	27
54	Thermodynamic assessment of the Mn–Y–O system. Journal of Alloys and Compounds, 2005, 393, 114-121.	5.5	27

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55	Thermodynamic optimization of the Ca-Cu and Sr-Cu systems. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1996, 20, 151-160.	1.6	26
56	Thermodynamic evaluation of the Al–Cr–C system. International Journal of Materials Research, 2006, 97, 539-542.	0.8	26
57	Thermodynamic assessment of Cr–Nb–C and Mn–Nb–C systems. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2012, 39, 54-61.	1.6	26
58	Thermodynamic description of the layered O3 and O2 structural LiCoO2–CoO2 pseudo-binary systems. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2013, 41, 6-15.	1.6	26
59	Assessment of the Mn-O system. Journal of Phase Equilibria and Diffusion, 2003, 24, 21-39.	0.3	25
60	Ab initiolattice stability of fcc and hcp Fe–Mn random alloys. Journal of Physics Condensed Matter, 2010, 22, 295402.	1.8	25
61	Thermodynamic Assessment of the CaO-MgO-Al2O3 System. Journal of the American Ceramic Society, 1995, 78, 193-198.	3.8	24
62	Thermodynamic assessment of the Li–O system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2011, 35, 160-164.	1.6	24
63	A New Theoretical Study of the Cr-Nb System. Journal of Phase Equilibria and Diffusion, 2014, 35, 434-444.	1.4	24
64	Thermodynamic assessment of the Ag-Cu-O system. Journal of Phase Equilibria and Diffusion, 1998, 19, 351-360.	0.3	23
65	Calorimetric measurements and assessment of the binary Cu–Si and ternary Al–Cu–Si phase diagrams. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2016, 53, 25-38.	1.6	23
66	Thermodynamic Assessment of the Bismuth–Calcium–Oxygen Oxide System. Journal of the American Ceramic Society, 1997, 80, 2629-2636.	3.8	21
67	Thermodynamic modeling of the La–Mn–Y–Zr–O system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2006, 30, 489-500.	1.6	21
68	Semi-solid Processing of Alloys: Principles, Thermodynamic Selection Criteria, Applicability. ISIJ International, 2006, 46, 1852-1857.	1.4	21
69	Experimental phase diagram determination and thermodynamic assessment of the La2O3–SrO system. Acta Materialia, 2002, 50, 2209-2222.	7.9	19
70	Experimental Phase Diagram Study and Thermodynamic Optimization of the Agâ€Biâ€O System. Journal of the American Ceramic Society, 1999, 82, 711-715.	3.8	19
71	Assessment of the Sr-Mn-O system. Journal of Phase Equilibria and Diffusion, 2004, 25, 311-319.	1.4	19
72	Thermodynamic Assessment of the Bismuth–Strontium–Oxygen Oxide System. Journal of the American Ceramic Society, 1997, 80, 1085-1094.	3.8	19

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73	Integrated Approach for the Development of Advanced, Coated Gas Turbine Blades. Advanced Engineering Materials, 2006, 8, 535-562.	3.5	19
74	Combined ab initio, experimental, and CALPHAD approach for an improved thermodynamic evaluation of the Mg–Si system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2012, 37, 77-86.	1.6	19
75	Liquidus projection and thermodynamic modeling of the Cr-Fe-Nb ternary system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2016, 54, 1-15.	1.6	19
76	A method for handling the extrapolation of solid crystalline phases to temperatures far above their melting point. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2020, 68, 101737.	1.6	19
77	Enhanced precipitation strengthening of multi-principal element alloys by \hat{I}^{e} and B2-phases. Materials and Design, 2021, 198, 109315.	7.0	19
78	Thermodynamic assessment of the Fe-FeS-MnS-Mn system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1998, 22, 257-273.	1.6	18
79	Thermodynamic Criteria for the Selection of Alloys Suitable for Semi-Solid Processing. Steel Research International, 2005, 76, 92-98.	1.8	18
80	Combined Al and C alloying enables mechanism-oriented design of multi-principal element alloys: Ab initio calculations and experiments. Scripta Materialia, 2020, 178, 366-371.	5.2	18
81	LaMnO perovskites modelled with and without antisite defects using the CALPHAD approach. Solid State Ionics, 2004, 173, 17-21.	2.7	17
82	CALPHAD modeling of the La2O3–Y 2O3 system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2005, 29, 103-113.	1.6	17
83	Experimental determination of the thermodynamic properties of the Laves phases in the Cr–Fe–Nb system. Thermochimica Acta, 2016, 624, 47-54.	2.7	16
84	Thermodynamic Assessment of the Strontium–Copper–Oxygen System. Journal of the American Ceramic Society, 1997, 80, 527-536.	3.8	15
85	The Fe–Mn enthalpy phase diagram from first principles. Journal of Alloys and Compounds, 2013, 577, 370-375.	5.5	15
86	Thermodynamic assessment of Fe3Mn3Nb3N and Nb3C3Nsystems. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2013, 40, 10-15.	1.6	15
87	Assessment of the M n-O System. Journal of Phase Equilibria and Diffusion, 2003, 24, 21-39.	0.3	15
88	ls zinc HCP_ZN or HCP_A3?. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2012, 37, 34-36.	1.6	14
89	The Cr–Fe–Nb ternary system: Experimental isothermal sections at 700°C, 1050°C and 1350°C. Jo Alloys and Compounds, 2015, 648, 168-177.	urnal of	14
90	Comparative Study of the Tempering Behavior of Different Martensitic Steels by Means of In-Situ Diffractometry and Dilatometry. Materials, 2020, 13, 5058.	2.9	14

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91	Reactions in Al2O3î—,Mg metal matrix composites during prolonged heat treatment at 400, 550 and 600°C. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1993, 169, 149-157.	5.6	11
92	Thermal and chemical stability of Cr ₂ AlC in contact with α-Al ₂ O ₃ and NiAl. International Journal of Materials Research, 2010, 101, 1519-1523.	0.3	11
93	Thermodynamic Modeling and Calculation of Phase Equilibria in the Strontium–Calcium–CopperOxygen System at Ambient Pressure. Journal of the American Ceramic Society, 1997, 80, 537-550.	3.8	10
94	Enhanced residual secondary phase dissolution by atmosphere control in Bi-2212 superconductors. Physica C: Superconductivity and Its Applications, 2004, 405, 103-116.	1.2	10
95	A CALPHAD assessment of the Al–Mn–C system supported by ab initio calculations. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2018, 60, 231-239.	1.6	10
96	Modelling of interstitials in the bcc phase. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2009, 33, 233-236.	1.6	9
97	Microstructural evolution and mechanical properties of CoCrFeNiMnTi _x highâ€entropy alloys. Materialwissenschaft Und Werkstofftechnik, 2021, 52, 441-451.	0.9	9
98	Determination of Hydrogen Solubility in Fe–Mn–C Melts. Steel Research International, 2011, 82, 108-113.	1.8	8
99	Solvus Composition Paths in Multicomponent Alloys-Experimental Approach and Correlation with Calphad Calculations for the Example Al-Mg-Si. Advanced Engineering Materials, 2012, 14, 319-323.	3.5	8
100	Thermodynamic assessment of the Fe–Nb–V system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2013, 43, 143-148.	1.6	8
101	Structural transformation of sputtered o-LiMnO2 thin-film cathodes induced by electrochemical cycling. Thin Solid Films, 2013, 549, 263-267.	1.8	8
102	Thermodynamic evaluation of the Al–V–C system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2013, 41, 156-159.	1.6	8
103	Experimental investigation of the Al-Mn-C system. Part II: Liquidus and solidus projections. Journal of Alloys and Compounds, 2017, 695, 3445-3456.	5.5	8
104	Experimental investigation of the Al-Mn-C system: Part I. Phase equilibria at 1200 and 1100°C. Journal of Alloys and Compounds, 2017, 700, 238-246.	5.5	8
105	Thermodynamic modelling of the Ni-V system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2019, 65, 273-281.	1.6	8
106	Thermodynamic modelling of the Al–Co–Mn system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2020, 71, 101793.	1.6	7
107	Thermodynamic Optimization of the Silver—Bismuth—Strontium—Calcium—Copper—Oxygen (Agâ€Bi‧r a uâ€O) System. Journal of the American Ceramic Society, 2000, 83, 911-914.	3.8	6
108	Algorithms useful for calculating multi-component equilibria, phase diagrams and other kinds of diagrams. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2021, 75, 102330.	1.6	6

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109	On the solubility of yttrium in RuO2. Journal of Applied Physics, 2011, 110, 054317.	2.5	5
110	Numerical Prediction of the Microstructure and Stress Evolution During Surface Grinding of AISI 52100 (DIN 100Cr6). Integrating Materials and Manufacturing Innovation, 2018, 7, 202-213.	2.6	5
111	Experimental Phaseâ€Diagram Study and Thermodynamic Optimization of the Silver‧trontiumâ€Copperâ€Oxygen (Ag‧râ€Cuâ€O) and Silverâ€Calciumâ€Copperâ€Oxygen (Agâ€Caâ€Cu Journal of the American Ceramic Society, 1999, 82, 3591-3596.	â €Ω} Syst	enais.
112	Strength degradation of NiAl coated sapphire fibres with a V2AlC interlayer. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 525, 200-206.	5.6	4
113	Modeling the Porosity Formation in Austenitic SGI Castings by Using a Physics-Based Material Model. Advanced Engineering Materials, 2010, 12, 158-169.	3.5	4
114	Cocrystallization of Max-Phases in the Ti–Al–C System. Powder Metallurgy and Metal Ceramics, 2015, 54, 471-481.	0.8	4
115	Experimental investigation of solidification and isothermal sections at 1000 and 1100°C in the Al-Fe-Mn-C system with special attention to the kappa-phase. Journal of Alloys and Compounds, 2018, 735, 1211-1218.	5.5	4
116	Thermodynamic modelling of the Al–Co–Fe system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2021, 74, 102288.	1.6	4
117	On the dilute solution laws for ionic compounds. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1990, 14, 23-26.	1.6	3
118	Microstructure Control and Structure Analysis in the Semi-Solid State of Different Feedstock Materials for the Bearing Steel 100Cr6. Solid State Phenomena, 2006, 116-117, 177-180.	0.3	3
119	From binary assessments to thermodynamic databases. International Journal of Materials Research, 2008, 99, 589-597.	0.3	2
120	Chemical characterisation of scale formation of high manganese steels (Fe-Mn23-C0.6) on the sub-micrometre scale: a challenge for EPMA. IOP Conference Series: Materials Science and Engineering, 2012, 32, 012001.	0.6	2
121	Experimental observation of κ-phase formation sequences by in-situ synchrotron diffraction. Materials Letters, 2019, 241, 111-114.	2.6	2
122	Modelling of Thermodynamics and Phase Equilibria in Selected Subsystems of the Bi-Sr-Ca-Cu-O System. , 1995, , 361-364.		2
123	Assessment of the Sr-Mn-O System. Journal of Phase Equilibria and Diffusion, 2004, 25, 311-319.	1.4	2
124	Assessment of the La-Mn-O System. Journal of Phase Equilibria and Diffusion, 2005, 26, 131-151.	1.4	2
125	Thermodynamic assessment of the BiOx–SrO–CaO system. Physica C: Superconductivity and Its Applications, 2004, 406, 189-200.	1.2	1
126	Heat balances and heat capacity calculations. Journal of Solid State Electrochemistry, 2007, 11, 1399-1404.	2.5	1

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127	Thermochemical Simulation of Phase Formation. , 0, , 147-166.		1
128	Melting of a tool steel. , 2008, , 392-397.		1
129	Aluminum–Lithium alloy development for thixoforming. International Journal of Materials Research, 2022, 95, 1097-1107.	0.3	1
130	CeO2—CoO Phase Diagram ChemInform, 2003, 34, no.	0.0	0
131	Thermodynamic calculation of the BiO1.5–CaO–CuOx system. Physica C: Superconductivity and Its Applications, 2004, 406, 201-204.	1.2	0
132	Thermodynamic Assessment of the Mn—Y—O System ChemInform, 2005, 36, no.	0.0	0
133	Simulation of Phase Changes During Thermal Treatments of Various Metal Alloys (TP B2). , 0, , 149-160.		0
134	Aluminum Through-Process Modeling: From Casting to Cup Drawing (TP C6). , 0, , 17-32.		0
135	Status of Through-Process Simulation for Coated Gas Turbine Components (TP C8)., 0,, 49-61.		0
136	Microstructure Modeling During Solidification of Castings (TP A2). , 0, , 87-101.		0
137	Coating of Turbine Blades (TP A3). , 0, , 103-124.		0
138	Use of Calphad Thermodynamics to Simulate Phase Formation during Semi-Solid Processing. Solid State Phenomena, 2008, 141-143, 641-646.	0.3	0
139	1 st Sino-German Symposium on Computational Thermodynamics and Kinetics and their Applications to Solidification. International Journal of Materials Research, 2008, 99, 580-581.	0.3	0
140	2 nd Sino-German Symposium on Computational Thermodynamics and Kinetics and their Applications to Solidification. International Journal of Materials Research, 2010, 101, 1331-1331.	0.3	0