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**ATOM PROBE FIELD ION MICROSCOPY AND RELATED TOPICS:
A BIBLIOGRAPHY 1992**

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PREFACE

This bibliography, covering the period 1992, includes references related to the following topics: atom probe field ion microscopy (APFIM), field emission (FE), and field ion microscopy (FIM). Technique-orientated studies and applications are included.

Previous publications containing the papers published prior to this period are as follows:

<i>Atom Probe Field-ion Microscopy and Related Topics: A Bibliography 1978-1987</i>	M.K. Millier and A.R. McDonald	ORNL/TM-11157
<i>Atom Probe Field-Ion Microscopy and Related Topics: A Bibliography 1988</i>	M.K. Miller and A.R. Hawkins	ORNL/TM-11370
<i>Atom Probe Field Ion Microscopy and Related Topics: A Bibliography 1989</i>	M.K. Miller, A.R. Hawkins, and K.F. Russell	ORNL/TM-11696
<i>Atom Probe Field Ion Microscopy and Related Topics: A Bibliography 1990</i>	K.F. Russell and M.K. Miller	ORNL/TM-12005
<i>Atom Probe Field Ion Microscopy and Related Topics: A Bibliography 1991</i> published by Oak Ridge National Laboratory, Oak Ridge, TN 37831-6285 and	K.F. Russell and M.K. Miller	ORNL/TM-12223
<i>Field-Ion Microscopy and Related Techniques, A Bibliography: 1951-1978</i> published by Warwick, Birmingham	R.E. Thurstans and J.M. Walls	

The references contained in this document were compiled from a variety of sources including computer searches and personal lists of publications. To reduce the length of this document, the references have been reduced to the minimum necessary to locate the articles. The references, listed alphabetically by authors, are subdivided into the categories listed in paragraph one above. An *Addendum* of references missed in previous bibliographies is included.

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1992

1	Atom-phase data analysis by the Ising model and its application to an aluminum-zinc alloy	Abe, T.	Scr. Metall. Mater. (1992) <u>26</u> , 1359-64
2	Chemical analysis of composite precipitate in aged aluminum-lithium-zirconium alloys by an atom-probe field-ion microscope	Abe, T.	Scr. Metall. Mater. (1992) <u>26</u> , 1143-47
3	Thermal equilibrium concentration fluctuations above the critical temperature in a Ni-Cu alloy	Abe, T.	Acta Metall. Mater. (1992) <u>40</u> , 1951-9
4	Time evolution of composition profiles in alloys	Abe, T.
Soffa, W.A.	Surf. Sci. (1992) <u>266</u> , 453-7
5	Analysis of silicon oxides by field-ion microscope and atom-probe method	Adachi, T.
Ariyasu, T.	Koon Gakkaishi (1992) <u>18</u> , 164-76
6	The early stages of decomposition of Al-Li alloys	Al-Kassab, T.
Menand, A.
Chambreland, S.
Haasen, P.	Surf. Sci. (1992) <u>266</u> , 333-6
7	Field dependence of hydrogen adsorption	Andrn, H.-O.
Rolander, U.	Surf. Sci. (1992) <u>266</u> , 76-80
8	High-resolution microscopy of the discontinuous precipitation	Beber, G.P.
Haasen, P.	Surf. Sci. (1992) <u>266</u> , 328-32
9	The role of atom-probe techniques in the investigation of some selected metallurgical problems	Blavette, D.	Surf. Sci. (1992) <u>266</u> , 299-309
10	Surface reactions on an atomic scale. Field desorption with field and photon pulses	Block, J.H.
Chuah-Jaenicke, G.K.
Kruse, N.	ACS Symp. Ser. (1992) <u>482</u> , (Surf. Sci. Catal.) 287-309
11	APFIM characterisation of the spinodal decomposition in duplex stainless steels	Brown, J.E.
Smith, G.D.W.
Pumphrey, P.H.
Miller, M.K.	Fifth Int. Symp. on Environmental Degradation of Materials in Nuclear Power Systems-Water Reactors, Monterey, CA, 1992, E. Simonen, ed., American Nuclear Society, LaGrange Park, IL (1992) 319-26
12	FIM-atom probe: observation and analysis on the subnanometric scale of grain boundaries in a boron-doped nickel base superalloy	Buchon, A.
Blavette, D.	C. R. Acad. Sci., Ser. II (1992) <u>315</u> , 279-84

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13	Visualisation of three-dimensional microstructures	Cerezo, A.
Hetherington, M.G.
Hyde, J.M.
Miller, M.K.
Smith, G.D.W.
Underkoffler, J.S.	Surf. Sci. (1992) <u>266</u> , 471-80
14	New dimensions in atom-probe analysis	Cerezo, A.
Hyde, J.M.
Miller, M.K.
Beverini, G.
Setna, R.P.
Warren P.J.
Smith, G.D.W.	Surf. Sci. (1992) <u>266</u> , 481-93
15	Atomistic modeling of diffusional phase transformations	Cerezo, A.
Hyde, J.M.
Miller, M.K.
Petts, S.C.
Setna, R.P.
Smith, G.D.W.	Philos. Trans. R. Soc. London (1992) <u>A341</u> , 313-26
16	An atom-probe study of retained austenite in ferritic weld metal	Chandrasekharaiah, M.N.
Dubben, G.
Kolster, B.H.	Weld. Res., Published in: Weld. J. (Miami) (1992) <u>71(7)</u> , S247-9
17	The segregation of carbon atoms to dislocations in low-carbon martensites: Studies by field ion microscopy and atom probe microanalysis	Chang, L.
Barnard, S.J.
Smith, G.D.W.	Fundamentals of Aging and Tempering in Bainitic and Martensitic Steel Products, G. Krauss and P.E. Repas, eds., The Iron and Steel Society, Warrendale, PA (1992) 19-28
18	An atom-probe investigation of some correlated phase transformations in Cr, Ni, Mo containing supersaturated ferrites	Danoix, F.
Auger, P.
Blavette, D.	Surf. Sci. (1992) <u>266</u> , 364-9
19	Some new aspects on microstructural and morphological evolution of thermally aged duplex stainless steels	Danoix, F.
Deconihout, B.
Bostel, A.
Auger, P.	Surf. Sci. (1992) <u>266</u> , 409-15
20	Performance of an energy compensated time-of-flight mass spectrometer	Deconihout, B.
Menand, A.
Bouet, M.
Sarrau, J.M.	Surf. Sci. (1992) <u>266</u> , 523-8
21	Electron stimulated field desorption of field adsorbed neon and helium from tungsten	Dirks, J.
Drachsel, W.
Block, J.H.	Surf. Sci. (1992) <u>266</u> , 62-9

22	Simultaneous field desorption of ^3He and ^4He	Drachsel, W.
Dirks, J.
Block, J.H.	Surf. Sci. (1992) <u>266</u> , 40-5
23	Micro-analysis of welds using the field-ion microscope/atom probe	Dubben, G.
Chandrasekharaiah, M.N.
Kolster, B.H.	J. Mater. Sci. (1992) <u>27</u> , 3192-6
24	The new Göttingen atom probe	Fischmeister, H.F.	Z. Metallkd. (1992) <u>83</u> , 449-56
25	Kinetics of field evaporation during hydride formation on GaP surfaces: a FIM and atom-probe study	Gaussmann, A.
Drachsel, W.
Block, J.H.	Langmuir (1992) <u>8</u> , 125-9
26	Aging behaviour of cobalt free chromium containing maraging steels	Gemperle, A.
Gemperlová, J.
Sha, W.
Smith, G.D.W.	Mater. Sci. Technol. (1992) <u>8</u> , 546-54
27	Solid-state mass spectrometry for materials science	Grasserbauer, M.	Pure Appl. Chem. (1992) <u>64</u> , 485-95
28	Ultra-high-resolution chemical analysis by field-ion microscopy, atom probe and position-sensitive atom-probe techniques	Grovenor, C.R.M.
Smith, G.D.W.
Cerezo, A.
Liddle, J.A.
MacKenzie, R.A.D.
Warren, P.J.
Setna, R.P.
Hyde, J.M.
Brown, J.E.
Stark, I.
Shollock, B.A.	Ultramicroscopy (1992) <u>47</u> , 199-211
29	High-resolution microscopy and early-stage precipitation kinetics	Haasen, P.
Wagner, R.	Metall. Trans. A (1992) <u>23</u> , 1901-14
30	Atom-probe and TEM study of the isothermal ω and secondary α phases in a Ti-10 V-2 Fe-3 Al alloy	Hadjadj, L.
Champagnac, M.H.
Vassel, A.
Menand, A.	Microsc. Microanal. Microstruct. (1992) <u>3</u> , 471-82
31	Structural analysis with the position sensitive atom probe	Hetherington, M.G.
Cerezo, A.
Hyde, J.M.
Smith, G.D.W.	Surf. Sci. (1992) <u>266</u> , 463-70
32	Atom probe study of early stage phase decomposition in an aluminum-7.8 at.% lithium alloy	Hono, K.
Babu, S.S.
Hiraga, K.
Okano, R.
Sakurai, T.	Acta Metall. Mater. (1992) <u>40</u> , 3027-34

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33	Determination of site occupation probability of copper in nickel aluminide (Ni_3Al) by atom-probe field ion microscopy	Hono, K.
Chiba, A.
Sakurai, T.
Hanada, S.	Acta Metall. Mater. (1992) <u>40</u> , 419-25
34	The IMR atom probe	Hono, K.
Hashizume, T.
Sakurai, T.	Surf. Sci. (1992) <u>266</u> , 506-12
35	Microstructures of $\text{Fe}_{73.5}\text{Si}_{13.5}\text{B}_9\text{Nb}_3\text{Cu}_1$ nanocrystalline soft magnetic material investigated by APFIM and HRTEM	Hono, K.
Hiraga, K.
Wang, Q.
Inoue, A.
Sakurai, T.	Surf. Sci. (1992) <u>266</u> , 385-90
36	The microstructure evolution of a $\text{Fe}_{73.5}\text{Si}_{13.5}\text{B}_9\text{Nb}_3\text{Cu}_1$ nanocrystalline soft magnetic material	Hono, K.
Hiraga, K.
Wang, Q.
Inoue, A.
Sakurai, T.	Acta Metall. Mater. (1992) <u>40</u> , 2137-47
37	Direct evidence for compositional fluctuation in sputtered Co-Cr thin films	Hono, K.
Maeda, Y.
Li, J.-L.
Sakurai, T.	J. Magn. Magn. Mater. (1992) <u>110</u> , L254-8
38	Determination of site preference of Cu and Ge in Ni_3Al	Hono, K.
Numakura, H.
Szabó, I.A.
Chiba, A.
Sakurai, T.	Surf. Sci. (1992) <u>266</u> , 358-63
39	Analysis of structure and chemical composition with atomic resolution by atom-probe field ion microscope	Hono, K.
Sakurai, T.	Shinsozai (1992) <u>3</u> , 82-7
40	Nano-scale characterization of materials by atom probe field ion microscopy	Hono, K.
Sakurai, T.	Keikinzoku (1992) <u>42</u> , 236-47
41	A preliminary atom-probe FIM study of aluminum-lithium-X alloys	Hono, K.
Sano, N.
Sakurai, T.	KEK Proc., 91-16 (Workshop Phase Sep. Ordering, 1st, 1990) (1992) 26-8
42	Quantitative atom-probe analysis of some aluminum alloys	Hono, K.
Sano, N.
Sakurai, T.	Surf. Sci. (1992) <u>266</u> , 350-7
43	Relationship of chemical composition and structure on an atomic scale for metal/metal interfaces: The W(Re) System	Hu, J.
Seidman, D.H.	Scr. Metall. Mater. (1992) <u>27</u> , 693-8

44	Electropolishing of polycrystalline $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ to meet the need for sharp needle geometry	Hu, Q.-H.
Alarco, J.A.	Surf. Sci. (1992) <u>266</u> , 538-44
45	Three-dimensional characterization and modelling of spinodally decomposed iron-chromium alloys	Hyde, J.M.
Cerezo, A.
Hetherington, M.G.
Miller, M.K.
Smith, G.D.W.	Surf. Sci. (1992) <u>266</u> , 370-7
46	Atomic scale observations of the chemical composition of a metal/ceramic interface	Jang, H.
Seidman, D.N.	Scr. Metall. Mater. (1992) <u>26</u> , 1493-8
47	An APFIM analysis of grain boundaries and precipitation in boron-doped NiAl	Jayaram, R.
Miller, M.K.	Surf. Sci. (1992) <u>266</u> , 310-5
48	An APFIM investigation of the role of boron in precipitates and at boundaries in NiAl	Jayaram, R.
Miller, M.K.	Proc. "Structure and Properties of Interfaces in Materials," Materials Research Society Fall '91 Meeting, Boston, MA, W.A.T. Clark, U. Dahmen and C. L. Briant, eds., Materials Research Society, Pittsburgh, PA (1992) <u>238</u> , 445-50
49	An APFIM/TEM study of crept model Ni-Mo-Ta-Al superalloys	Jayaram, R.
Miller, M.K.	Surf. Sci. (1992) <u>266</u> , 316-21
50	An atom probe field ion microscope characterization of precipitates in a model vanadium alloy	Jayaram, R.
Miller, M.K.	Scr. Metall. Mater. (1992) <u>27</u> , 77-82
51	An atom probe field ion microscope investigation of γ - γ' interfaces in a model nickel-based superalloy	Jayaram, R.
Miller, M.K.	Proc. 50th Annual Meeting of the Electron Microscopy Society of America, Boston, MA, G.W. Bailey, J. Bentley, and J. A. Small, eds., San Francisco Press, San Francisco, CA (1992) 176-7
52	Microstructural changes during overtempering of high-speed steels	Karagöz, S.
Fischmeister, H.F.
Andrén, H.-O.
Guang-Jun, C.	Metall. Trans. (1992) <u>23A</u> , 1631-40
53	The kinetics of intermetallic phase formation in duplex stainless weld metals and their influence on mechanical properties	Karlsson, L.
Pak, S.
Bengtsson, L.
Rolander, U.	Proc. Int. Conf. Applications of Stainless Steel '92, Kista, Stockholm, Sweden, June 9-11, 1992, ASM International, Materials Park, OH

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54	An atom-probe FIM study of interphase precipitation in a model alloy steel	Khalid, F.A.
Edmonds, D.V.	Surf. Sci. (1992) <u>266</u> , 424-32
55	Microanalytical evaluation of a prototype stainless bearing steel	Kinkus, T.J.
Olson, G.B.	Surf. Sci. (1992) <u>266</u> , 391-6
56	Characterization of precipitates in HSLA steels	Kneissl, A.C.
Garcia, C.I.
DeArdo, A.J.	Proc. Int. Conf. HSLA Steels, G. Tither and S. Zhang, eds., Miner. Met. Mater. Soc., Warrendale, PA (1992) 99-105
57	Systematic procedures for atom-probe field-ion microscopy studies of grain-boundary segregation	Krakauer, B.W.
Seidman, D.N.	Rev. Sci. Instrum. (1992) <u>63</u> , 4071-9
58	Effects of microchemistry and precipitate size on nodular corrosion resistance of Zircaloy-2	Kruger, R.M.
Adamson, R.B.
Brenner, S.S.	J. Nucl. Mater. (1992) <u>189</u> , 193-200
59	Atom probe examination of thermally aged CF8M cast stainless steel	Leax, T.R.
Brenner, S.S.
Spitznagel, J.A.	Metall. Trans. A (1992) <u>23</u> , 2725-36
60	Atom-probe field ion microscopy	Leisch, M.	Mikrochim. Acta (1992) <u>107</u> , 95-104
61	A combined time-of-flight spectrometer using field desorption and ion impact sputtering	Leisch, M.
Rendulic, K.D.	Surf. Sci. (1992) <u>266</u> , 517-22
62	Phase coherence in atomic vibration in field dissociation of field desorbed diatomic ions	Liu, J.
Wu, C.
Tsong, T.T.	Phys. Rev. B (1992) <u>45</u> , 3659-68
63	Recoil dissolution of β -precipitates in Ni-12at%Be alloy under electron irradiation	Liu, Z.G.
Al-Kassab, T.	Phys. Stat. Sol. A (1992) <u>131</u> , 429-35
64	Microchemical and microstructural investigations on two-phase intermetallic titanium-aluminum (TiAl/Ti ₃ Al) alloys by field ion microscopy and atom probe (APFIM)	Liu, Z.G.
Frommeyer, G.
Kreuss, M.	Phys. Stat. Sol. A (1992) <u>131</u> , 495-508
65	The interface structure of the β -precipitates in Ni-12 at% Be alloy	Liu, Z.G.
Zheng, J.G.
Li, Q.
Feng, D.	Phys. Stat. Sol. A (1992) <u>131</u> , 523-8

66	A study of phase separation in copper-nickel alloys by AP-FIM	Lopez, H.V.M.
Sakurai, T.
Hirano, K.	Scr. Metall. Mater. (1992) <u>26</u> , 99-103
67	Atom-probe investigation of a creep resistant 12% chromium steel	Lundin, L.
Andrn, H.-O.	Surf. Sci. (1992) <u>266</u> , 397-401
68	Characterisation and properties of ultra-fine scale materials	MacKenzie, R.A.D.	Proc. Roy. Microsc. Soc. (1992) <u>27</u> , 191-2
69	The position sensitive atom probe	MacKenzie, R.A.D.	Microscopy and Analysis (1992) <u>28</u> , 17-9
70	Influence of electrostatic fields on binding energy (NO on Rh)	Madenach, R.P.
Abend, G.
Mousa, M.S.
Kreuzer, H.J.
Block, J.H.	Surf. Sci. (1992) <u>266</u> , 56-61
71	Philosophy and design of a composition mapping atom probe (COMAP)	Melmed, A.J.
Camus, P.P.	Surf. Sci. (1992) <u>266</u> , 513-6
72	Implementation of the optical atom probe	Miller, M.K.	Surf. Sci. (1992) <u>266</u> , 494-500
73	An atom probe field ion microscopy study of neutron-irradiated pressure vessel steels	Miller, M.K.
Burke, M.G.	J. Nucl. Mater. (1992) <u>195</u> , 68-82
74	Characterization of copper precipitation in a 17/4 PH steel: A combined APFIM/TEM study	Miller, M.K.
Burke, M.G.	Fifth Int. Symp. on Environmental Degradation of Materials in Nuclear Power Systems-Water Reactors, Monterey, CA, 1992, E. Simonen, ed., American Nuclear Society, LaGrange Park, IL (1992) 689-95
75	The miscibility gap in the FeBe system	Miller, M.K.
Burke, M.G.	Microsc. Microanal. Microstruct. (1992) <u>3</u> , 387-400
76	Estimation of composition amplitude: P_a and LBM versus V	Miller, M.K.
Cerezo, A.
Hetherington, M.G.
Hyde, J.M.	Surf. Sci. (1992) <u>266</u> , 446-52
77	Some factors affecting analysis in the atom probe	Miller, M.K.
Jayaram, R.	Surf. Sci. (1992) <u>266</u> , 458-62
78	Grain boundary composition in NiAl	Miller, M.K.
Jayaram, R.
Camus, P.P.	Scr. Metall. Mater. (1992) <u>26</u> , 679-84

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79	An APFIM investigation of a weathered region of the Santa Catharina meteorite	Miller, M.K.
Russell, K.F.	Surf. Sci. (1992) <u>266</u> , 441-5
80	Grain size strengthening in steel and its relationship to the grain boundary segregation of carbon	Mintz, B.
Han, K.
Smith, G.D.W.	Mater. Sci. Technol. (1992) <u>8</u> , 537-40
81	Field Emission '91. Proc. 38th Intl. Field Emission Symp., Vienna, Austria, 5-9 August 1991. [In: Surf. Sci., (1992) <u>266</u> (1-3)]	Mitteraurer, J., ed.	(North-Holland: Amsterdam, Neth.) (1992) 562 pp.
82	Mass-reflectron as an ion energy analyzer	Moskovits, E.V.	Appl. Phys. B (1992) <u>54</u> , 556-61
83	Surface structures observed in atomic level	Nishikawa, O.
Tomitori, M.	Kinzoku (1992) <u>62</u> , 42-9
84	Atom-probe study of precipitation in dilute copper-iron-titanium alloys	Pareige, P.
Chambreland, S.
Blavette, D.	Mem. Etud. Sci. Rev. Metall. (1992) <u>89</u> , 311-6
85	Atom probe analysis and modelling of interfaces in magnetic multilayers	Petford-Long, A.K.
Cerezo, A.
Hyde, J.M.	Ultramicroscopy (1992) <u>47</u> , 367-74
86	Atom-probe field ion microscope study of surface changes in platinum/rhodium catalyst alloy upon oxidation and reduction treatments	Poulston, S.
Smith, G.D.W.	Catalysis and Surface Characterisation, T.J. Dienes, C.H. Rochester and J. Thomson, eds., Royal Society of Chemistry, London, UK (1992) 228-33
87	Study of the structure of oxide interface in the platinum-rhodium alloy by AP-FIM	Ren, D.	Rare Met. (Beijing) (1992) <u>11</u> , 34-8
88	Recent advances in surface analysis	Riviere, J.C.	Analyst (London) (1992) <u>117</u> , 313-22
89	Atom probe studies of early stages of precipitation reactions in maraging steels. I. Co- and Ti-containing C-300 steel	Sha, W.
Cerezo, A.
Smith, G.D.W.	Scr. Metall. Mater. (1992) <u>26</u> , 517-22
90	Atom probe studies of early stages of precipitation reactions in maraging steels. II. Titanium-free model alloy and cobalt-free T-300 steel	Sha, W.
Cerezo, A.
Smith, G.D.W.	Scr. Metall. Mater. (1992) <u>26</u> , 523-28

91	Hardening mechanisms in maraging steels	Sha, W.
Cerezo, A.
Smith, G.D.W.	Proc. IRC-92 Conf. Birmingham, UK, (Sept. 92), M.H. Loretto and C.J. Reeves, eds., Materials and Component Engineering Publications, Birmingham, UK (1992) 879-84
92	Some aspects of atom-probe analysis of Fe-C and Fe-N systems	Sha, W.
Chang, L.
Smith, G.D.W.
Cheng, L.
Mittemeijer, E.J.	Surf. Sci. (1992) <u>266</u> , 416-23
93	Atom probe field-ion microscopy study of ageing behaviour of a model Fe-Ni-Co-Mo maraging steel	Sha, W.
Smith, G.D.W.
Cerezo, A.	Surf. Sci. (1992) <u>266</u> , 378-84
94	A position-sensitive atom probe approach to characterization of aluminum oxide dispersion strengthened copper alloy	Sha, W.
Zhu, F.	J. Nucl. Mater. (1992) <u>186</u> , 288-93
95	Three dimensional reconstruction of atomic scale composition with the position sensitive atom probe	Smith, G.D.W.
Cerezo, A.
Grovenor, C.R.M.
Godfrey, T.J.
Setna, R.P.	Proc. 50th Annual Meeting of the Electron Microscopy Society of America, Boston, MA, G.W. Bailey, J. Bentley, and J. A. Small, eds., San Francisco Press, San Francisco, CA (1992) 1478-9
96	Intergranular precipitation in Ni-Cr-Fe alloys	Stiller, K.	Surf. Sci. (1992) <u>266</u> , 402-8
97	Isothermal ramped field-desorption of water from metal surfaces	Stintz, A.
Panitz, J.A.	J. Appl. Phys. (1992) <u>72</u> , 741-5
98	Further statistical analysis of the composition of a $\Sigma=9/(-1,-1,4)$ grain boundary in a Mo(Re) alloy studied by atom-probe field-ion microscopy	Udler, D.
Hu, J. G.
Kuo, S.-M.
Seki, A.
Krakauer, B.,W.
Seidman, D.N.	Scr. Metall. Mater. (1992) <u>25</u> , 841-5
99	Oxygen scavenging effect of the α_2 phase in the TiAl intermetallic compound	Uemori, R.
Hanamura, T.
Morikawa, H.	Scr. Metall. Mater. (1992) <u>26</u> , 969-74
100	Estimate of the binding energy of atoms in the lattice of single-crystal high- T_c semiconductors	Vlasov, Y.A.
Golubev, O.L.
Kontorovich, E.L.
Shrednik, V.N.	Pis'ma Zh. Tekh. Fiz. (1992) <u>18</u> (22), 727

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101	Interaction of residual gases with an atomically clean surface of single-crystal $\text{EuBa}_2\text{Cu}_3\text{O}_{7-x}$	Vlasov, Y.A.
Golubev, O.L.
Kontorovich, E.L.
Shrednik, V.N.	Pis'ma Zh. Tekh. Fiz. (1992) <u>18</u> (22), 734
102	The role of alloy composition in the precipitation behaviour of high speed steels	Wang, R.
Andrn, H.-O.
Wisell, H.
Dunlop, G.L.	Acta Metall. Mater. (1992) <u>40</u> , 1727-38
103	Field-ion microscope/atom-probe analysis of the effect of RRA heat treatment on the matrix strengthening precipitates in alloy Al-7150	Warren, P.J.
Grovenor, C.R.M.
Crompton, J.S.	Surf. Sci. (1992) <u>266</u> , 342-9
104	APFIM 200 - A reflectron-based atom probe	Waugh, A.R.
Richardson, C.H.
Jenkins, R.	Surf. Sci. (1992) <u>266</u> , 501-5
105	Ultra-fine structure of a boron-doped Ni_4Mo alloy	Yamamoto, M.
Sugiyama, A.
Matsushima, H.
Uemori, R.
Morikawa, H.	Surf. Sci. (1992) <u>266</u> , 322-7
106	Atom-probe study of phase decomposition of ferrite during aging in ferritic/austenitic duplex stainless steel	Yoshimura, T.
Ishikawa, Y.	J. Japan. Inst. Metals, Nippon Kinzoku Gakkaishi (1992) <u>56</u> , 873-80
107	An APFIM/AEM study of phase decompositions in Fe-Ni alloys at low temperatures	Zhang, J.
Miller, M.K.
Williams, D.B.
Goldstein, J.I.	Surf. Sci. (1992) <u>266</u> , 433-40
108	FIM atom probe study of an Al_2O_3 dispersion strengthened copper alloy	Zhu, F.
Jiao, L.
Wanderka, N.
Wahi, R.P.
Wollenberger, H.	Surf. Sci. (1992) <u>266</u> , 337-41

1	Low temperature thermal oxidation sharpening of microcast tips	Akamine, S.
Quate, C.F.	J. Vac. Sci. Technol. B (1992) <u>10</u> , 2307-10
2	Manufacture of field-emission devices, and devices thus obtained	Allaway, M.J.
Cade, N.A.
Birrell, S.T.
Green, P.W.	Eur. Pat. Appl. EP 497509 (1992)
3	Density-gradient analysis of field emission from metals	Ancona, M.G.	Phys. Rev. B (1992) <u>46</u> , 4874-83
4	3D calculations at atomic scale of the electrostatic potential and field created by a teton tip	Atlan, D.
Gardet, G.
Binh, V.-T.
Garcia, N.
Sáenz, J.J.	Ultramicroscopy (1992) <u>42-44</u> , 154-62
5	Field effect on electron emission from the deep titanium donor level in indium phosphide	Baber, N.
Scheffler, H.
Ostmann, A.
Wolf, T.
Bimberg, D.	Phys. Rev. B: Condens. Matter (1992) <u>45</u> , 4043-7
6	Low-frequency field-emission fluctuation current of the system uranium dioxide-residual gases	Bakhtizin, R.Z.
Bobkov, A.F.
Gots, S.S.
Zaripov, R.F.
Lazarev, N.E.
Suvorov, A.L.
Yumaguzin, Yu.M.	Poverkhnost (1992) <u>2</u> , 29-33
7	Statistical model of semiconductor field emitter	Bakhtizin, R.Z.
Ghots, S.S.	Surf. Sci. (1992) <u>266</u> , 121-5
8	Field emission study of germanium thin films on a niobium surface	Bakhtizin, R.Z.
Suvorov, A.L.
Zaripov, R.F.	Acta Phys. Pol. A (1992) <u>81</u> , 247-55
9	Nonequilibrium effects in high current field emission	Barengolts, S.A.
Kreindel, M.Yu.
Litvinov, E.A.	Surf. Sci. (1992) <u>266</u> , 126-31
10	Nonequilibrium effects in field electron emission from superconductors	Barengolts, S.A.
Litvinov, E.A.
Uimanov, I.V.	Surf. Sci. (1992) <u>266</u> , 132-5
11	Surface diffusion parameters for potassium and lithium on tungsten field emitter tip	Beimat, T.
Beben, J.
Meclewski, R.	Surf. Sci. (1992) <u>266</u> , 11-7
12	Field-emission microcathode arrays	Betsui, K.
Inoue, H.
Fukuta, S.	Eur. Pat. Appl. EP 497627 (1992)

Field Emission Microscopy

13	On the electron and metallic ion emission from nanotips fabricated by field-surface-melting technique: experiments on tungsten and gold tips	Binh, V.-T.
Garcia, N.	Ultramicroscopy (1992) <u>42-44</u> (Pt. A), 80-90
14	Field-emission electron spectroscopy of single-atom tips	Binh, V.-T.
Garcia, N.
Doglioni, J.	Phys. Rev. Lett. (1992) <u>69</u> , 2527-30
15	Local heating of single-atom protrusion tips during field electron emission	Binh, V.-T.
Purcell, S.T.
Gardet, G.
Garcia, N.	Surf. Sci. (1992) <u>279</u> , L197-201
16	New field-emitter switch for ESD protection of microwave circuits	Bock, K.
Hartnagel, H.L.	Electronics Lett. (1992) <u>28</u> , 1822-4
17	Vacuum microelectronics	Brodie, I.
Spindt, C.A.	Advances in Electronics and Electron Physics, I. Brodie and C.A. Spindt, eds., Academic Press, Inc., New York (1992) <u>83</u> , 106
18	Gated field emitter failures: experiment and theory	Browning, J.
McGruer, N.E.
Meassick, S.
Chan, C.
Bintz, W.J.
Gilmore, M.	IEEE Trans. Plasma Sci. (1992) <u>20</u> , 499-506
19	Collector-induced field emission triode	Busta, H.H.
Jenkins, D.W.
Zimmerman, B.J.
Pogemiller, J.E.	IEEE Trans. Electron Dev. (1992) <u>39</u> , 2616-20
20	Point sources of electrons and ions using microprotrusion on the top of a tip	Butenko, V.G.
Vlasov, Yu.A.
Golubev, O.L.
Shrednik, V.N.	Surf. Sci. (1992) <u>266</u> , 165-9
21	Fabrication of biologically based microstructure composites for vacuum field emission	Chow, G.M.
Stockton, W.B.
Price, R.
Baral, S.
Ting, A.C.
Ratna, B.R.
Shoen, P.E.
Schnur, J.M.
Bergeron, G.L.
Czarnaski, M.A.
Hickman, J.J.
Kirkpatrick, D.A.	Mater. Sci. Eng. (1992) <u>A158</u> , 1-6

22	Temperature dependence of the preexponential factors of the field emission flicker noise cross-correlation function for potassium on tungsten(110)	Dabrowski, A.M.
Kleint, C.	Acta Phys. Pol., A (1992) <u>81</u> , 583-8
23	A study of time and space correlations in field emission current fluctuations with a fiber-optical technique	Dadykin, A.A.
Naumovets, A.G.	Acta Phys. Pol., A (1992) <u>81</u> , 131-43
24	Noise in field-induced electron emission from graphite composite: spectral density and autocorrelation investigations	Dharmadhikari, C.V.
Khairnar, R.S.
Joag, D.S.	J. Phys. D: Appl. Phys. (1992) <u>25</u> , 125-30
25	The thermal faceting of surfaces by low coverage adsorption	Drechsler, M.	Surf. Sci. (1992) <u>266</u> , 1-10
26	Mechanisms responsible for instability of a field emission cathode surface morphology	Eremchenko, D.V.
Makhov, V.I.	Surf. Sci. (1992) <u>266</u> , 163-4
27	Field-emission arrays and their fabrication	Feist, W.M.
Stacey, W.F.	Eur. Pat. Appl. (Patent) EP 520780 (1992)
28	Manufacture of field-emitting cathode and vacuum transistor	Fukui, T.
Ando, S.	Jpn. Kokai Tokkyo Koho. (Patent) JP 04137434 (1992)
29	Formation of an atomic source for metal ions by superficial fusion in an electric field	Garcia Garcia, N.
Binh, V.-T.	Span. (Patent) ES 2029426 (1992)
30	100 kV field emission electron optics for nanolithography	Gesley, M.	J. Vac. Sci. Technol. B (1992) <u>10</u> , 2451-8
31	Computer simulation of kinetic processes near a semiconductor surface at a high electric field using the particle method	Gherm, V.E.
Mileshkina, N.V.
Semykina, E.A.,	J. Phys.: Condens. Matter (1992) <u>4</u> , 1545-54
32	Thermofield tip formation in UHV/STM combined with field-emission microscope	Golubok, A.O.
Masalov, S.A.
Tarasov, N.A.	Ultramicroscopy (1992) <u>42-44</u> (Pt. B), 1574-9
33	Current stochasticity of field emission of charge from traps in the transition layer of implanted MIS structures	Gomenyuk, Yu V.
Litovski, R.N.
Lysenko, V.S.
Osiyuk, I.N.
Tyagul'skii, I.P.	Appl. Surf. Sci. (1992) <u>59</u> , 91-4
34	Surface self-diffusion studies on the W(112) plane by the field emission method	Gong, Y.-M.	Surf. Sci. (1992) <u>266</u> , 30-4

Field Emission Microscopy

35	Oxygen-induced buildup of W(100) and W(111) planes	Gong, Y.-M.
Leng, R.-H.	Solid State Communications
(1992) <u>84</u> , 1085-88
36	Tunneling dynamics in stationary field emission	Gottlieb, B.
Kleber, M.	Ann. Physik (1992) <u>1</u> , 369-79
37	Time-dependent theory of charge transfer in the field ionization process at surfaces	Gründler, W.	Surf. Sci. (1992) <u>266</u> , 137-40
38	Surface composition of silicon-tantalum disilicide eutectic cathodes and its effect on vacuum field emission	Hickman, J.J.
Bergeron, G.
Czarnaski, M.
Kirkpatrick, D.A.	Appl. Phys. Lett. (1992) <u>61</u> , 2518-20
39	Anisotropy in surface diffusion of gallium atoms on a germanium(001) plane at the apex of a field-emission tip	Honda, T.
Okano, T.	Appl. Surf. Sci. (1992) <u>60-61</u> , 260-5
40	Manufacture of niobium carbide field emitter	Ishizawa, Y.
Aizawa, T.
Otani, S.	Jpn. Kokai Tokkyo Koho.
(Patent) JP 04061724 (1992)
41	Electric field-emitting cathode	Ito, S.
Tonegawa, T.
Niiyama, T.	Jpn. Kokai Tokkyo Koho.
(Patent) JP 04087233 (1992)
42	Field emitter arrays for vacuum microelectronics	Itoh, J.
Tsuburaya, K.
Kanemaru, S.	Technical Digest of the 11th
Sensor Symposium (1992) 143-8
43	Low-operation-voltage comb-shaped field emitter array	Itoh, J.
Tsuburaya, K.
Kanemaru, S.
Watanabe, T.
Itoh, S.	Jpn. J. Appl. Phys. (1992) <u>31</u> , 884-6
44	Making a field-emission electron source employing a diamond coating	Jaskie, J.E.
Kane, R.C.	U.S. Patent No. 5141460 (1992)
45	A comparison of the transmission coefficient and the Wigner function approaches to field emission	Jensen, K.L.
Ganguly, A.K.	COMPEL - Comp. and Math in Elec. and Elect. Eng. (1992) <u>4</u> , 457-70
46	Field emission from silicon emitters	Johnston, R.
Miller, A.J.	Surf. Sci. (1992) <u>266</u> , 155-62
47	Microelectronic field emitter	Jones, G.W.
Sune, C.T.	U.S. Patent No. 5144191 (1992)
48	Silicon field emission transistors and diodes	Jones, G.W.
Sune, C.T.
Gray, H.F.	IEEE Transactions on
Components, Hybrids and
Manufacturing Technology (1992) <u>15</u> , 1051-5

49	Microstructural gated field emission sources for electron beam applications	Jones, G.W.
Sune, C.T.
Jones, S.K.
Gray, H.F.	Proc. SPIE-Int. Soc. Opt. Eng., 1671 (Electron-Beam, X-Ray, Ion-Beam Submicrometer Lithogr. Manuf. II) (1992) 201-7
50	Barrier-resonance states in an external electric field	Jurczyszyn, L.
Steslicka, M.	Surf. Sci. (1992) <u>266</u> , 141-4
51	A field-emission device employing a layer of single-crystal silicon and its preparation	Kane, R.C.	PCT Int. Appl. (Patent)
WO 9204732 (1992)
52	Making a molded field-emission cathode employing a diamond coating	Kane, R.C.
Jaskie, J.E.	U.S. Patent No. 5129850 (1992)
53	Field-emission display with vacuum seal	Kane, R.C.
Jaskie, J.E.
Parker, N.W.	U.S. Patent No. 5157304 (1992)
54	Nonhomogeneous multielemental electron emitter	Kane, R.C.
Vasquez, B.	U.S. Patent No. 5156705 (1992)
55	Reactive ion etching techniques for silicon sidewall angle control in microengineering	Kim, J.M.
Carr, W.N.
Zeto, R.J.
Poli, L.	J. Electrochem. Soc. (1992) <u>139</u> , 1700-5
56	Field-emission cathode having a semiconductor-metal eutectic composite microstructure	Kirkpatrick, D.A.	U.S. Patent No. 5138220 (1992)
57	Demonstration of vacuum field emission from a self-assembling biomolecular microstructure composite	Kirkpatrick, D.A.
Bergeron, G.L.
Czarnaski, M.A.
Hickman, J.J.
Chow, G.M.
Price, R.
Ratna, B.L.
Schoen, P.E.
Stockton, W.B.
Baral, S.
Ting, A.C.
Schnur, J.M.	Appl. Phys. Lett. (1992) <u>60</u> , 1556-8
58	Analysis of field emission from three-dimensional structures	Kirkpatrick, D.A.
Mankofsky, A.
Tsang, K.T.	Appl. Phys. Lett. (1992) <u>60</u> , 2065-7
59	Field electron emitters	Komatsu, H.	Jpn. Kokai Tokkyo Koho. (Patent) JP 04280030 (1992)
60	Multiple-electrode field-electron-emission device and its manufacture and driving	Komatsu, F.	Eur. Pat. Appl. (Patent)
EP 513777 (1992)

Field Emission Microscopy

61	Changes in the morphology of Rh field emitter tips due to the reaction with carbon monoxide	Kruse, N.
Gaussmann, A.	Surf. Sci. (1992) <u>266</u> , 51-5
62	A study on field-emission array pressure sensors	Lee, H.C.
Huang, R.-S.	Sens. Actuators (1992) <u>A34</u> , 137-54
63	A theoretical study of field emission array for microsensors	Lee, H.-C.
Huang, R.-S.	IEEE Trans. Electron Dev. (1992) <u>39</u> , 313-24
64	Field-emission spectrum of a nanometer-size supported gold cluster: theory and experiment	Lin, M.E.
Reifenberger, R.
Andres, R.P.	Phys. Rev. B: Condens. Matter (1992) <u>46</u> , 15490-7
65	Size-dependent field-emission spectra from nanometer-size supported gold clusters	Lin, M.E.
Reifenberger, R.
Ramachandra, A.
Andres, R.P.	Phys. Rev. B: Condens. Matter (1992) <u>46</u> , 15498-502
66	Fabrication of self-aligned gated field emitters	Liu, D.
Ravi, T.S.
Bagley, B.G.
Chin, K.K.
Marcus, R.B.	J. Micromech. Microeng. (1992) <u>2</u> , 21-4
67	Cesiated thin-film field-emission microcathode arrays	Macaulay, J.M.
Brodie, I.
Spindt, C.A.
Holland, C.E.	Appl. Phys. Lett. (1992) <u>61</u> , 997-9
68	Field emission cathode array coated with electron-work-function-reducing material, and method	Macaulay, J.M.
Spindt, C.A.
Holland, C.E.
Brodie, I.	U.S. Patent No. 5089292 (1992)
69	Field emission from hafnium carbide	Mackie, W.A.
Morrissey, J.L.
Hinrichs, C.H.
Davis, P.R.	J. Vac. Sci. Technol. A (1992) <u>10</u> , 2852-6
70	100 kV thermal field emission electron beam lithography tool for high-resolution x-ray mask patterning	McCord, M.A.
Viswanathan, R.
Hohn, F.J.
Wilson, A.D.
Naumann, R.
Newman, T.H.	J. Vac. Sci. Technol. B (1992) <u>10</u> , 2764-70

71	Studies on the nature of field emission sites	Moffat, D.
Barnes, P.
Flynn, T.
Graber, J.
Hand, L.
Hartung, W.
Hays, T.
Kirchgessner, J.
Knobloch, J.
et al.	Part. Accel. (1992) <u>40</u> , 85-126
72	Spectral analysis of field emission current fluctuations from a carbon fiber field emitter	More, M.A.
Joag, D.S.	J. Phys. D: Appl. Phys. (1992) <u>25</u> , 1844-7
73	Field electron emission studies on zinc oxide coated tungsten microemitters	Mousa, M.S.	Surf. Sci. (1992) <u>266</u> , 110-20
74	High-field ion sources and applications	Muehle, R.	Rev. Sci. Instrum. (1992) <u>63</u> , 3040-9
75	Thin-film cold cathode structure and flat screen display device containing it	Okamoto, S.
Nakazawa, E.	Fr. Demande, (Patent)
FR 2675306 (1992)
76	Cold-cathode field-emission device employing a current source means	Parker, N.W.
Kane, R.C.	PCT Int. Appl. (Patent)
WO 9205571 (1992)
77	An automatic field-emission tip conditioning system	Ruan, S.
Kapp, O.H.	Rev. Sci. Instrum. (1992) <u>63</u> , 4056-60
78	High-temperature/ultrahigh vacuum compatible probe station	Santos, E.J.P.	Rev. Sci. Instrum. (1992) <u>63</u> , 3789-90
79	Atomic scale characterization of tungsten surface proposed from FEM images of a tip with and without adsorption	Sato, M.	Appl. Surf. Sci. (1992) <u>60-61</u> , 411-5
80	Field emission resonances studied with $dI/ds(V)$ and $dI/dV(V)$ curves	Scandella, L.
Güntherodt, H.-J.	Ultramicroscopy (1992) <u>42-44</u> , 546-52
81	The behavior of LiF-coated metal anodes in pulsed electric fields	Schwoebel, P.R.
Panitz, J.A.	J. Appl. Phys. (1992) <u>71</u> , 2151-4
82	Spark discharge at low pressure with a field cathode	Semenov, A.P.	Teplofiz. Vys. Temp. (1992) <u>30</u> , 36-41
83	Field emitters made of high- T_c superconducting single crystals: preparation and spectrometric investigations	Shilimanov, S.N.
Shkuratov, S.I.
Ivanov, S.N.	Sov. Tech. Phys. Lett. (1992) <u>18</u> , 297-8; Pis'ma Zh. Tekh. Fiz. (1992) <u>18(9)</u> , 57-60

Field Emission Microscopy

84	High temperature superconductors in strong electric fields	Shkuratov, S.I.	Surf. Sci. (1992) <u>266</u> , 88-99
85	Field electron microscopy and spectroscopy of HTSC perfect monocrystals	Shkuratov, S.I.
Ivanov, S.N.
Shilimanov, S.N.	Surf. Sci. (1992) <u>266</u> , 224-31
86	FEM study of oxidized tungsten surfaces	Sotola, J.
Savkin, V.
Knor, Z.	Collect. Czech. Chem. Commun. (1992) <u>57</u> , 2481-93
87	Microfabricated field-emission and field-ionization sources	Spindt, C.A.	Surf. Sci. (1992) <u>266</u> , 145-54
88	Field emission spectroscopy of potassium on single crystal planes of molybdenum	Stepien, Z.M.	Surf. Sci. (1992) <u>266</u> , 107-9
89	Fabrication of encapsulated silicon-vacuum field-emission transistors and diodes	Sune, C.T.
Jones, G.W.
Vellenga, D.	J. Vac. Sci. Technol. B (1992) <u>10</u> , 2984-8
90	Discharge tubes	Suzuki, S.
Iketani, M.
Sano, I.	Jpn. Kokai Tokkyo Koho. (Patent) JP 04149954 (1992)
91	Field-emission arrays - a potentially bright source	Tang, C.M.
Ting, A.C.
Swyden, T.	Nucl. Instrum. Methods Phys. Res., Sect. A (1992) <u>318</u> , 353-7
92	Fabrication of silicon field emission points for vacuum microelectronics by wet chemical etching. [Erratum to document cited in CA114(20):197685d]	Trujillo, J.T.
Hunt, C.E.	Semicond. Sci. Technol. (1992) <u>7</u> , 441
93	Oscillatory behavior of the reduction of nitric oxide by hydrogen over rhodium	van Tol, M.F.H.
Gielbert, A.
Nieuwenhuys, B.E.	Catal. Lett. (1992) <u>16</u> , 297-309
94	Thermal roughening of FEM clean Pt {110} and its vicinal areas	Vanselow, R.	Surf. Sci. (1992) <u>279</u> , L213-8
95	The work function of kinked areas on clean, thermally rounded Pt and Rh crystallites: its dependence on the structure of terraces and edges	Vanselow, R.
Li, X.Q.D.	Surf. Sci. Lett. (1992) <u>264</u> , L200:
Erratum Surf. Sci. (1992) <u>273</u> , L487
96	Field emitter and its manufacture	Watanabe, H.
Komatsu, H.
Hasegawa, T.
Ishimaru, T.	Eur. Pat. Appl. (Patent) EP 483814 (1992)

97	Array of field emission cathodes	Watanabe, H.
Ohoshi, T.	Eur. Pat. Appl. (Patent)
EP 503638 (1992)
98	Influence of space charge on field emission of electrons from sharp edges	Wheeler, C.B.	IEEE Proc. A (1992) <u>139</u> , 169-73
99	Absolute work function measurements with the retarding potential method utilizing a field emission electron source	Yamamoto, S.
Watanabe, I.
Sasaki, S.
Yaguchi, T.	Surf. Sci. (1992) <u>266</u> , 100-6
100	Structures and processes for fabricating field emission cathodes	Zimmerman, S.M.	PCT Int. Appl. (Patent)
WO 9202031 (1992)
101	Current stability and energy spread of tungsten [310] field emission	Zinzindohoue, P.	Optik (Stuttgart) (1992) <u>90</u> , 43-4

1	A simple model for the adsorption of a monovalent atom on a metal surface and the field desorption	Abarenkov, I.V.
Bar'yudin, L.E.	J. Phys.: Condens. Matter (1992) 4 , 2239-46
2	Field-ion microscopy of the silicon (001) surface	Adachi, T.
Ariyasu, T.	Philos. Mag. A (1992) 66 , 405-14
3	Classical dynamics of strong-field ionization	Bowden, C.M.
Sung, C.C.
Pethel, S.D.
Ritchie, A.B.	Phys. Rev. A (1992) 46 , 592-6
4	Surface reactions in an external electrostatic field	Bragiel, P.	Surf. Sci. (1992) 266 , 35-9
5	Ion emission from tungsten tips in an electric field below the FIM level	Brueckner, M.
Morgner, H.	Europhys. Lett. (1992) 18 , 469-73
6	The "collapsing ring" effect in the field evaporation of hot iridium	Butenko, V.G.
Golubev, O.L.
Kontorovich, E.L.
Shrednik, V.N.	Sov. Tech. Phys. Lett. (1992) 18 , 275-6; Pis'ma Zh. Tekh. Fiz. (1992) 18(8) , 86-91
7	Surface tension of a tungsten single crystal surface reconstructed in an electric field	Butenko, V.G.
Golubev, O.L.
Shrednik, V.N.	Pis'ma Zh. Tekh. Fiz. (1992) 18(19) , 642-4
8	Field ionization distribution curves and the local electric field	Castilho, C.M.C.	J. Phys.: Condens. Matter (1992) 4 , 1039-46
9	Self-diffusion on reconstructed and nonreconstructed Ir surfaces	Chen, C.
Tsong, T.T.	J. Vac. Sci. Technol. B (1992) 10 , 2178-84
10	Atomic replacement and adatom diffusion: Re on Ir surfaces	Chen, C.
Tsong, T.T.
Zhang, L.
Yu, Z.	Phys. Rev. B (1992) 46 , 7803-7
11	An analysis of the optics of a field ionization ion source for application with a scanning proton microprobe	Colman, R.A.
Allan, G.L.
Legge, G.J.F.	Rev. Sci. Instrum. (1992) 63 , 5653-60
12	An atomic view of crystal growth	Ehrlich, G.	Appl. Phys. A (1992) A55 , 403-10
13	Nanotips by reverse electrochemical etching	Fotino, M.	Appl. Phys. Lett. (1992) 60 , 2935-7
14	Self-diffusion on iridium(100). A structure investigation by field-ion microscopy	Friedl, A.
Schütz, O.
Müller, K.	Surf. Sci. (1992) 266 , 24-9

Field Ion Microscopy

15	Field ion microscopy of the CO-induced structural changes of Pd and Pt single crystal planes	Gaussmann, A.
Kruse, N.	Surf. Sci. (1992) <u>266</u> , 46-50
16	Real-space imaging of the CO-induced (1 X 2) reconstructions of Pd(011) and (113)	Gaussmann, A.
Kruse, N.	Surf. Sci. (1992) <u>279</u> , 319-27
17	A focused He ⁺ ion beam with a high angular current density	Hiroshima, H.
Komuro, M.
Konishi, M.
Tsumori, T.	Jpn. J. Appl. Phys. (1992) <u>31</u> , 4492-5
18	Field ion microscopy of phase transformations in a copper-gold (Cu ₂ Au) (platinum, palladium, silver) alloy	Ivchenko, V.A.	Surf. Sci. (1992) <u>276</u> , 273-80
19	Diffusion of Pd adatoms and stability of Pd overlayers on the (011) surface of Pt	Kellogg, G.L.	Phys. Rev. B (1992) <u>45</u> 14354-7
20	Surface diffusion of Pt adatoms on Ni surfaces	Kellogg, G.L.	Surf. Sci. (1992) <u>266</u> , 18-23
21	Chemical reactions in high electric fields	Kreuzer, H.J.	Surface Science of Catalysis: In Situ Probes and Reaction Kinetics, D.J. Dwyer and F.M. Hoffmann, eds., American Chemical Society, Washington, DC (1992) <u>482</u> , 268-86
22	Self-consistent calculation of atomic adsorption on metals in high electric fields	Kreuzer, H.J.
Wang, L.C.
Lang, N.D.	Phys. Rev. B (1992) <u>45</u> , 12050-55 - Report, TR-5; Order No. AD-A236 205, 24 pp. Avail. NTIS from: Gov. Rep. Announce. Index (U.S.) (1991) 91(19), Abstr. No. 151,769
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Tsong, T.T.	Phys. Rev. B: Condens. Matter (1992) <u>46</u> , 2640-3
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Tsong, T.T.	Phys. Rev. Lett. (1992) <u>69</u> , 2427-30
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Iwatsu, F.	Denshi Kenbikyo (1992) <u>26</u> , 222-5
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Letokhov, V.S.	Surf. Sci. (1992) <u>266</u> , 81-7
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Iwawaki, F.	Surf. Sci. (1992) <u>266</u> , 204-13
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Liu, R.	Thin Solid Films (1992) <u>221</u> , 318-23
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Röllgen, F.W.
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Vispute, R.D.
Ogale, S.B.
Joag, D.S.	J. Vac. Sci. Technol. B (1992) <u>10</u> , 1208-10

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Flyatau, E.E.	Mod. Phys. Lett. B (1992) <u>6</u> , 1029-35
40	Surface atomic structure of $\text{YBa}_2\text{Cu}_3\text{O}_7$ high-temperature superconductor cathode in strong electric fields	Talantsev, E.F.
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Iwatsu, F.
Morikawa, H.	Surf. Sci. (1992) <u>266</u> , 244-8
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Hondsmerk, F.A.
Bakker, J.W.
Nieuwenhuys, B.E.	Surf. Sci. (1992) <u>266</u> , 529-37
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Adhi, K.P.
Joag, D.S.
Sharma, A.K.
Abhyandar, N.
Kulkarni, S.K.	J. Appl. Phys. (1992) <u>71</u> , 1052-4
47	Atomic behavior at individual binding sites: Ir, Re, and W on Ir(111)	Want, S.C.
Ehrlich, G.	Phys. Rev. Lett. (1992) <u>68</u> , 1160-3
48	Direct observation of interactions between identical adatoms: Ir-Ir and Re-Re on W(110)	Watanabe, F.
Ehrlich, G.	J. Chem. Phys. (1992) <u>96</u> , 3191-9

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Bostel, A.	Advanced Materials and Processing Techniques for Structural Applications, Paris, Sept. 7-9, 1987, T. Khan and A. Lasalmonie, eds., (1987) 101-9
4	The thermal ageing of single phase ferritic and duplex stainless steels	Brown, J.E.
Pumphrey, P.H.
Smith, G.D.W.	Duplex Stainless Steels '91, J. Charles and S. Bernhardsson, eds., Les Editions de Physique, Paris, France (1991) <u>2</u> , 737-46
5	Thermodynamic and structural properties of individual nanometer-size supported metallic clusters	Castro, T.
Choi, E.
Li, Y. Z.
Andres, R.P.
Refenberger, R.	Mat. Res. Soc. Symp. Proc. (1991) <u>206</u> , 159-68
6	Characterization of duplex stainless steels by TEM, SANS, and APFIM techniques	Chung, H.M.
Chopra, O.K.	Charact. Adv. Mater., [Proc. Int. Metallogr. Soc. Symp.] 1987, W. Altergott and E.G. Henneke, eds., Plenum, New York (1990) 123-47
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Movchan, B.N.
Shvarkunov, V.A.	Sov. Tech. Phys. Lett. (1990) <u>16(10)</u> , 782-4; Pis'ma Zh. Tekh. Fiz. (1990) <u>16(20)</u> , 42-6f
10	Spectral analysis of adsorbate induced field-emission flicker noise	Gesley, M.A.
Swanson, L.W.	Phys. Rev. B (1983) <u>32</u> , 7703-12

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11	Secondary electron field emission from silica and alternative insulating layers	Hecht, D.
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Zhao, X.
Cui, Y.
Zhang, M.	Gaojishu Tongxin (1991) <u>1</u> , 11-13
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Tsong, T.T.	Surf. Sci. (1977) <u>62</u> , 343-60
15	Electromagnetic evaporation of samples and probes in STM	Kobayashi, A.
Grey, F.
Aono, M.	Kagaku Kogyo (1991) <u>42</u> , 944-51
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17	Critical review of surface diffusion parameters of potassium on tungsten	Meclewski, R.	Solid State Phenomena (1990) <u>12</u> , 49-60
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Sears, J.
Shu, Q.	Conf. Rec. IEEE Part. Accel. Conf., 14th IEEE: New York (1991) <u>1</u> , 21-3
20	Ultramicroanalysis utilizing electron tunneling	Nishikawa, O.
Tomitori, M.
Iwawaki, F.	Anal. Sci. (1991) <u>7</u> (Suppl., Proc. Int. Congr. Anal. Sci., 1991, Pt. 2), 1225-30
21	Slanted conducting boundaries and field emission of particles in an electromagnetic particle simulation code	Pointon, T.D.	J. Compu. Phys. (1991) <u>96</u> , 143-62
22	Microstructural characterization of defects and mechanisms (including field-ion observations)	Ralph, B.	Adv. Phys. Metall., J.A. Charles and G.C. Smith, eds., Inst. Met.: London, UK (1990) 119-39

23	Surface conduction-induced electron-emitting element and manufacture thereof	Saito, N.
Takagi, H.
Ogawa, H.
Yamazaki, Y.
Nomura, I.	Jpn. Kokai Tokkyo Koho.
(Patent) JP 03127428 (1991)
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Baratoff, A.	Phys. Rev. B (1990) <u>42</u> , 9221-4
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Tsuneyuke, S.	Surf. Sci. (1987) <u>26</u> , 47-61
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30	Microanalysis of the matrix and the oxide-metal interface of uniformly corroded zircaloy	Wadman, B.
Andren, H.-O.	Zirconium in the Nuclear Industry, Ninth Int. Symp., ASTM STP 1132, C.M. Eucken and A.M. Garde, eds., American Society for Testing and Materials, Philadelphia, PA (1991) 461-75
31	Microstructural influence on uniform corrosion of zircaloy nuclear fuel claddings	Wadman, B.
Andren, H.-O.
Nystrom, A.-L.
Rudling, P.
Pettersson, H.	J. Nucl. Mater. (1991) <u>200</u> , 207-17
32	Dynamic image potentials and field emission	Wu, J.-W.
Mahan, G.D.	Phys. Rev. B (1983) <u>28</u> , 4839-41
33	Electron field emission in porous silicon	Yue, W.K.	93 pp., Avail. Univ. Microfilms Int., Order No. DA9206585
From: Diss. Abstr. Int. B 1992, (1991) <u>52</u> , 4914
34	Thermionic-field emission in reverse-biased aluminum/gallium arsenide Schottky diodes	Zaidi, S.H.
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