

List of references

Abeles, B., Pinch, H.L. and Gittleman, J.I. (1975) Percolation conductivity in W-Al₂O₃ granular metal films. *Phys.Rev.Lett.* **35** (4) 247-250

Adachi, M., Okuyama, K., Kousaka, Y. and Tanaka, H. (1988) Preparation of gas sensitive film by deposition of ultrafine tin dioxide particles. *J.Aerosol Sci.* **19** (2) 253-263

Agata, M., Kurase, H., Hayashi, S. and Yamamoto, K. (1990) Photoluminescence spectra of gas-evaporated CdS microcrystals. *Solid State Comm.* **76** (8) 1061-1065

Alivisatos, A.P. (1996) Semiconductor clusters, nanocrystals, and quantum dots. *Science* **271** 933-937

Andres, R.P., Averback, R.S., Brown, W.L., Brus, L.E., Goddard, W.A, Kaldor, A., Louie, S.G., Moscovits, M., Peercy, P.S., Riley, S.J., Siegel, R., Spaepen, F. and Wang, Y. (1989) Research opportunities on clusters and cluster-assembled materials - A department of energy, council on materials science panel report. *J.Mater.Res.* **4** (3) 704-734

Balachandran, U., Siegel, R.W., Liao, Y.X. and Askew, T.R. (1995) Synthesis, sintering, and magnetic properties of nanophase Cr₂O₃. *Nanostruct.Matls.* **5** 505-512

Bapat, P.M., L.L. Tavlarides and G.W. Smith (1983) Monte Carlo Simulations of Mass Transfer in Liquid-Liquid Dispersions. *Chem. Eng. Sci.*, **38** 2003-2008

Bartz, H., Fissan, H. and Liu, B.Y.H. (1987) A new generator for ultrafine aerosols below 10 nm. *Aerosol Sci. Technol.*, **6** 163-171

Bayazitoglu, Y., Brotzen, F.R. and Zhang, Y. (1996) Metal vapor condensation in a converging nozzle. *Nanostruct.Matls.* **7** 789-803

Bezryadin, A., Dekker, C. and Schmid, G. (1997) Electrostatic trapping of single conducting nanoparticles between nanoelectrodes. *Appl.Phys.Lett.* **71** (9) 1273-1275

Bird, G.A., *Molecular gas Dynamics*, Clarendon Press, Oxford (1976)

Birring, R., Gleiter, H., Klein, H.P. and Marquardt, P. (1984) Nanocrystalline materials, an approach to a novel solid structure with gas like disorder. *Phys.Lett* **102A** 365

Blandenet, G., Court, M. and Lagarde, Y. (1981) Thin layers deposited by the pyrosol process. *Thin Solid Films* **77** 81-90

Bowles, R.S., Kolstad, J.J., Calo, J.M. and Andres, R.P. (1981) Generation of molecular clusters of controlled size. *Surf.Sci.* **106** 117-124

Brankovic, Z., Milosevic, O., Uskokovic, D., Poleti, D. and Karanovic, L. (1994) Nanostructured constituents of ZnO-based varistors prepared by mechanical attrition. *Nanostruct.Matls.* **4** 149-157

Brus, L.E. (1983) A simple model for the ionization potential, electron affinity, and aqueous redox potentials of small semiconductor crystallites. *J.Chem.Phys.* **79**(11) 5566-5571

Brus, L.E. (1984) Electron-electron and electron-hole interactions in small semiconductor crystallites: the size dependence of the lowest excited electronic state. *J.Chem.Phys.* **80**(9) 4403-4409

Brus, L. (1991) Quantum crystallites and nonlinear optics. *Appl.Phys. A* **53** 465-474

Brus, L.E., Szajowski, P.F., Wilson, W.L., Harris, T.D., Schuppler, S. and Chitrin, P.H. (1995) Electronic spectroscopy of Si nanocrystals: relationship to bulk c-Si and porous Si. *J.Am.Ceram.Soc.* **117** 2915-2922

Büscher, P., Schmidt-Ott, A., Wiedensohler, A. (1994) Performance of an Unipolar "Square Wave" Diffusion Charger with Variable nt -Produkt. *J. Aerosol Sci.* **25** 651-665

Cai, J. and Sorensen, C.M. (1994) Diffusion of fractal aggregates in the free molecular regime. *Phys. Rev. E* **50** 3397-3400

Camata, R.P., Atwater, H.A., Vahala, K.J. and Flagan, R.C. (1996) Size classification of silicon nanocrystals. *Appl.Phys.Lett.* **68** (22) 3162-3164

Cannon, W.R., Danforth, S.C., Flint, J.C., Haggerty, J.S. and Marra, R.A. (1982) Sinterable ceramic powders from laser-driven reactions. *J.Am.Ceram.Soc.* **65** 324-335

Carey, M.J., Young, A.P, Starr, A., Rao, D. and Berkowitz, A.E. (1992) Giant magnetoresistance in heterogeneous AgCo alloy films. *Appl.Phys.Lett* **61** (24) 2935-2937

Chadda, S., Ward, T.L., Carim, A., Kodas, T.T., Ott, K. and Kroeger, D. (1991) Synthesis of $Ba_2Cu_3O_{7-y}$ and $YBa_2Cu_4O_8$ by aerosol decomposition. *J. Aerosol Sci.* **22** (5) 601-616

Chen, D.-R., Pui, D.Y.H. and Kaufman, S.L. (1995) Electro spraying of conducting liquids for monodisperse aerosol generation in the 4 nm to 1.8 μ m diameter range. *J.Aerosol Sci.* **26** (6) 963-977

Chen, X., Hu, X. and Feng, J. (1995) Nanostructured nickel oxide films and their electrochromic properties. *Nanostruct.Matls.* **6** 309-312

Chen, D.-R., Pui, D.Y.H., Hummes, D., Fissan, H., Quant, F.R. and Sem, G.J. (1998) Design and Evaluation of a Nanometer Aerosol Differential Mobility Analyzer (NanoDMA). *J. Aerosol Sci.* **29** (5/6) 497-509

Chen, D. and Pui, D.Y.H. (1999) A high efficiency, high throughput unipolar aerosol charger for nanoparticles. *Nanoparticle Res.* **1** 115-126

Chopra, K.L., Major, S. and Pandya, D.K. (1983) Transparent conductors - a status review. *Thin Solid Films* **102** 1-46

Chow, G.-M., Klemens, P.G. and Strutt, P.R. (1989) Nanometer-size fiber composite synthesis by laser-induced reactions. *J.Appl.Phys.* **66** (7) 3304-3308

Colvin, V.L., Schlamp, M.C. and Alivisatos, A.P. (1994) Light-emitting diodes made from cadmium selenide nanocrystals and a semiconducting polymer. *Nature* **370** 354-356

Collins, R. T., Fauchet, F. M. and Tischler, M. A. (1997) *Physics Today* **50** (January), 24

Dahneke, B (1983) "Simple kinetic theory of Brownian diffusion in vapors and aerosols". In *Theory of Dispersed Multiphase Flow* (Edited by Meyer, R.E.), pp. 97-133. Academic Press, New York

Danek, M., Jensen, K.F., Murray, C.B. and Bawendi, M.G. (1994) Preparation of II-VI quantum dot composites by electrospray organometallic chemical vapor deposition. *J.Crystal Growth* **145** 714-720

De Marco, M., Wang, X.W., Snyder, R.L., Simmins, J., Bayya, S., White, M. and Naughton, M.J. (1993) Mössbauer and magnetization studies of nickel ferrites. *J.Appl.Phys.* **73** (10) 6287-6289

Deppert, K., Maximov, I., Samuelson, L., Hansson, H.-C. and Wiedensohler, A. (1994) Sintered aerosol masks for dry-etched quantum dots. *Appl.Phys.Lett.* **64** (24) 3293-3295

Deppert, K., Bovin, J.-O., Malm, J.-O- and Samuelson, L. (1996) A new method to fabricate size-selected compound semiconductor nanocrystals: aerotaxy. *J.Crystal Growth* **169** 13-19

Deppert, K., Nielsch, K., Magnusson, M.H., Dumpich, G., Kruis, F.E. and Fissan, H. (1998) Feasibility study of nanoparticle synthesis from powders of compounds with incongruent sublimation behavior by the evaporation/condensation method. *Nanostruct. Matls.* **10** (4) 565-573

Dieguez, A., Romano-Rodriguez, A., Morante, J.R., Weimar, U., Schweizer-Berberich, M. and Göpel, W. (1996) Morphological analysis of nanocrystalline SnO₂ for gas sensor applications. *Sensors and Actuators B* **31** 1-8

Dixkens, J. and Fissan, H. (1997) Design of a Sampling System for Off-Line Particle Analysis. In "Fine Solid Particles"; Schwerpunktprogramm der DFG (1991-1997), 214-222, Shaker-Verlag GmbH, Aachen, ISBN3-8265-3050-0, ISSN 0945-1021

Dufoux, D.P. and Axelbaum, R.L. (1995) Nanoscale unagglomerated nonoxide particles from a sodium coflow flame. *Combust. Flame* **100** 350-358

Ehbrecht, M., Kohn, B., Huisken, F., Laguna, M.A. and Paillard, V. (1997) Photoluminescence and resonant Raman spectra of silicon films produced by size-selected cluster beam deposition. *Phys. Rev. B* **56** 6958-6964

El-Shall, M.E. and Edelstein, A.S. (1996) Formation of clusters and nanoparticles from a supersaturated vapor and selected properties, pp. 13-54 in: „Nanomaterials: synthesis, properties and applications“, ed. by A.S. Edelstein and R.C. Cammarata, Institute of Physics Publishing, Bristol, UK

El-Rahaiby, S.K. and Rao, Y.K. (1982) Kinetics of vaporization of lead sulfide. *Metall. Trans B* **13B** 633-641

Estrada, W., Andersson, A.M. and Granqvist, C.G. (1988) Electrochromic nickel-oxide-based coatings made by reactive dc magnetron sputtering: preparation and optical properties. *J. Appl. Phys.* **64** (7) 3678-3683

Fissan, H., Hummes, D., Stratmann, F., Büscher, P., Neumann, S., Pui, D.Y.H. and Chen, D.R. (1996) Experimental comparison of four Differential Mobility Analyzers for nanometer aerosol measurements. *Aerosol Sci. Technol.* **24** 1-13

Fissan, H., Pöcher, A., Neumann, S., Boulaud, D. and Pourprix, M. (1998) Analytical and empirical transfer functions of a simplified Spectromètre de mobilité électrique circulaire (SMEC) for nanoparticles. *J. Aerosol Sci.* **29** 289-293

Friedlander, S.K. (1983) *Ann. N.Y. Acad. Sci.*, **40** 354

Friedlander, S.K. (1977) *Smoke, Dust and Haze*, Wiley, New York.

Fröhlich, K., Machajdik, D., Rosova, A., Vavra, I., Weiss, F., Bochu, B. and Senateur, J.P. (1995) Growth of SrTiO₃ thin epitaxial films by aerosol MOCVD. *Thin Solid Films* **260** 187-191

Fuchs, N.A. (1964) *The Mechanics of Aerosols*. Pergamon Press, Elmsford, NY.

Fujita, T., Oshima, K., Kuroishi, T. (1976) Temperature dependence of electrical conductivity in films of fine particles. *J. Phys. Soc. Japan* **40** (1) 90-92

Gacoin, T., Boilot, J.P., Gandais, M., Ricolleau, C. and Chamarro, M. (1995) Transparent sol-gel matrices doped with quantum sized PbS particles. *MRS Res. Symp. Proc.* **358** 247-252

Gangopadhyay, S., Hadjipanayis, G.C., Dale, B., Sorensen, C.M., Klabunde, K.J., Papaefthymiou, V. and Kostikas, A. (1992) Magnetic properties of ultrafine iron particles. *Phys.Rev.B* **45** (17) 9778-9787

Gao, H.J., Xue, Z.Q., Wu, Q.D. and Pang, S.J. (1995) Structure and electrical properties of Ag-ultrafine-particle-polymer thin films. *J.Vac.Sci.Technol.B* **13**(3) 1242-1246

Garcia, A.L., C. van den Broek, M. Aertsens and R. Serneels (1987) A Monte Carlo Method of Coagulation. *Physica*, **143A** 535-546

Gautheron, B., Labeau, M., Delabouglise, G. and Schmatz, U. (1993) Undoped and Pd-doped SnO₂ thin films for gas sensors. *Sensors and Actuators B* **15-16** 357-362

Gelbard, F. Tambour, Y. and Seinfeld, J.H. (1980) Sectional Representations for Simulating Aerosol Dynamics. *J. Colloid and Interface Sci.* **76** 541-550

Gelbard, F. and Seinfeld, J.H. (1980) Simulation of Multicomponent Aerosol Dynamics. *J. Colloid and Interface Sci.* **78** 485-501

Girshick, S.L. and Chiu, C.P.(1989) Kinetic nucleation theory: A new expression for the rate of homogeneous nucleation from an ideal supersaturated vapor. *J. Chem.Phys.* **93** 1273-1277

Gmelin, L. (1979) *Gmelin handbook of inorganic chemistry*, ed. by E.H.E. Pietsch, Springer, Berlin

Goldstein, A.N., Echer, C.M. and Alivisatos, A.P. (1992) Melting in semiconductor nanocrystals. *Science* **256** 1425-1427

Göpel, W. and Schierbaum, K.D. (1995) SnO₂ sensors: current status and future prospects. *Sensors and Actuators* **26** (1) 71-98

Göpel, W. (1996) Ultimate limits in the miniaturization of chemical sensors. *Sensors and Actuators A* **56** 83-102

Goswami, R., Banerjee, S., Chattopadhyay, K. and Raychaudhuri, A.K. (1993) Superconductivity in rapidly quenched metallic systems with nanoscale structure. *J.Appl.Phys.* **73** (6) 2934-2940

Granqvist, C.G. and Buhrman, R.A. (1976) Ultrafine metal particles. *J.Appl.Phys.* **47** (5) 2200-2219

Grimm, S., Schultz, M., Barth, S. and Müller, R. (1997) Flame pyrolysis - a preparation route for ultrafine pure α -Fe₂O₃ powders and the control of their particle size and properties. *J.Mater.Sci.* **32** (1997) 1083-1092

Günther, B. and Kumpmann, A. (1992) Ultrafine oxide powders prepared by inert gas evaporation. *Nanstruct.Matls.* **1** 27-30

Gutsch, A., S.E. Pratsinis and F. Löffler (1995) Agglomerate Structure and Growth Rate by Trajectory Calculations of Monomer-Cluster Collisions. *J. Aerosol Sci.*, **26** 187

Hadjipanayis, G.C., Klabunde, K.J. and Sorensen, C.M. (1996) Magnetic and structural properties of nanoparticles. pp. 375-394 in: „Nanomaterials: synthesis, properties and applications“, ed. by A.S. Edelstein and R.C.Cammarata, Institute of Physics Publishing, Bristol, UK

Hahn, H. and Averback, R.S. (1990) The production of nanocrystalline powders by magnetron sputtering. *Appl.Phys.Lett.* **67**(2) 1113-1115

Harrison, M.R., Hall, S.R., Jacobson, D.M. and Dineen, C. (1996) High-current conductors using high-temperature superconductors. *GEC J. of Res.* **13** (3) 146-158

Hayashi, C. (1987) Ultrafine particles. *J.Vac.Sci.Technol. A* **5**(4) 1375-1384

Hayashi, S., Sanda, H., Agata, M. and Yamamoto, K, (1989) Resonant Raman scattering from ZnTe microcrystals: Evidence for quantum size effects. *Phys.Rev.B.* **40** (8) 5544-5547

Herzer, G. (1990) Grain size dependence of coercivity and permeability in nanocrystalline ferromagnets. *IEEE Trans. Magn.* **26** (5) 1397-1402

Hewitt, G.W. (1957) AIEE Trans. **76** 300

Hide, F., Schwartz, B.J., Diaz-Garcia, M.A. and Heeger; A.J. (1996) Laser emission from solutions and films containing semiconducting polymer and titanium dioxide nanocrystals. *Chem.Phys.Lett.* **256** 424-430

W.C. Hinds (1982) *Aerosol Technology*, p. 44 (John Wiley, New York)

Hodes, G., Albu-Yaron, A., Decker, F. and Motisuke, P. (1987) Three-dimensional quantum-size effect in chemically deposited cadmium selenide films. *Phys.Rev.B* **36** 4215-4221

Hogan, H. (1996) The gigachips are coming. *Industrial Physicist* 7-8

Holtz, R.L., Provenzano, V. and Imam, M.A. (1996) Overview of nanophase metals and alloys for gas sensors, getters, and hydrogen storage. *Nanostruct.Matls.* **7** 259-264

Honig, R.E. and Kramer, D.A. (1969), "Vapor Pressure Data for the Solid and Liquid Elements", report, RCA Laboratories, Princeton NJ

Horvath, J., Birringer, R. and Gleiter, H. (1987) Diffusion in nanocrystalline material. *Sol. State Comm.* **62**(5) 319-322

Hu, W.S., Liu, Z.G., Zheng, J.G., Hu, X.B., Guo, X.L., and Göpel, W. (1997) Preparation of nanocrystalline SnO₂ thin films used in chemisorption sensors by pulsed laser reactive ablation. *J.Mater Sci.Mater.Elec.* **8** 155-158

Huang, Y.K., Menovsky, A.A: and Boer, F.R. de. (1993) Electrical resistivity of nanocrystalline copper. *Nanostruct.Matls.* **2** 505-513

Hull, P.J., Hutchison, J.L., Salata, O.V. and Dobson, P.J. (1997) Synthesis of nanometer-scale silver crystallites via a room-temperature electrostatic spraying process. *Adv.Mater.* **9** (5) 413-417

Hwang, J.-H., Dravid, V.P., Teng, M.H., Host, J.J., Elliott, B.R., Johnson, D.L. and Mason, T.O. (1997) Magnetic properties of graphitically encapsulated nickel nanocrystals. *J.Mater.Res.* **12** (4) 1076-1082

Ishikawa, K., Yoshikawa, K. and Okada, N. (1988) Size effect on the ferroelectric phase transition in PbTiO₃ ultrafine particles. *Phys.Rev.B.* **37** (10) 5852-5855

Ito, O., Asai, T., Ogawa, T., Hasegawa, M., Ikegami, A., Endoh, Y., Araya, T., Atoh, K. and Kobayashi, T. (1991) Effect of conduction particle size on LaB₆ thick film reesistor. *Thin Solid Films* **198** 17-27

Iwama, S., Hayakawa, K. and Arizumi, T. (1982) Ultrafine powders of TiN and AlN produced by a reactive gas evaporation technique with electron beam heating. *J.Crystal Growth* **56** 265-269

Jergel, M., Hanic, F., Strbik, V., Liday, J., Plesch, G., Melisek, T. and Kubranova, M. (1992) Thin BSCCO films prepared by deposition from aerosol. *Supercond. Sci. Technol.*, **5** (11) 663-670

Johnston, G.P., Muenchausen, R., Smith, D.M., Fahrenholtz, W. and Foltyn, S. (1992) Reactive laser ablation synthesis of nanosize alumina powder. *J.Am.Ceram.Soc.* **75** (12) 3293-3298

Kaito, C., Fujita, K. and Shiojiri, M. (1976) Growth of smoke particles prepared by evaporation in inert gases. *J.Appl.Phys.* **47** (12) 5161-5166

Kaito, C., Fujita, K. and Shiojiri, M. (1983) Growth of CdTe smoke particles prepared by gas evaporation technique. *J.Crystal Growth* **62** 375-383

Kaito, C., Saito, Y. and Fujita, K. (1987) A new preparation method of ultrafine particles of metallic sulfides. *J.Appl.Phys.* **2** **26** 1973-1975

Kaito, C. and Saito, Y. (1990) Growth of ultrafine particles of II-VI compounds by a new gas evaporation technique. *J.Crystal Growth* **99** 743-746

Kanemitsu, Y., Uto, H., Matsumoto, Y. and Maeda, Y. (1992) On the origin of visible photoluminescence in nanometer-size Ge crystallites. *Appl.Phys.Lett.* **61** 2187-2189

Kanemitsu, Y., Ogawa, T., Shiraishi, K. and Takeda, K. (1993) Visible photoluminescence from oxidized Si nanometer-sized spheres: exciton confinement on a spherical shell. *Phys.Rev.B* **48** (7) 4883-4886

Kanemitsu, Y. (1995) Light emission from porous silicon and related materials. *Phys.Rep.* **263** 1-91

Kang, Y.C., Park, S.B. and Kang, Y.W. (1995) Preparation of high surface area nanophase particles by low pressure spray pyrolysis. *Nanostruct.Matls.* **5** 777-791

Kang, Y.C. and Park, S.B. (1996a) Preparation of nanometre size oxide particles using filter expansion aerosol generator. *J.Mater.Sci.* **31** 2409-2416

Kang, Y.C. and Park, S.B. (1996b) Effect of preparation conditions on the formation of primary ZnO particles in filter expansion aerosol generator. *J.Mater.Sci.*, accepted

Kato, M. (1976) Preparation of ultrafine particles of refractory oxides by gas-evaporation method. *Jap.J. Appl.Phys.* **15**(5) 757-760

Kagawa, M., Suzuki, M., Mizoguchi, Y., Hirai, T. and Syono, Y. (1993) Gas-phase synthesis of ultrafine particles and thin films of Y-Al-O by the spray-ICP technique. *J.Aerosol Sci.* **24** 349-355

Katzer, M., Weber, A. P., Schmidt, E. and Kasper, G. (1998) Collision Frequencies of Fractal-like Aerosol Particles. *Advanced Technologies for Particle Processing*, **1**, pp. 93-98

Kawaguchi, T. and Miyazima, S. (1993) Visible photoluminescence from Si microcrystalline particles. *Jpn.J.Appl.Phys.* **32** L215-L217

Kear, B.H. and Strutt, P.R. (1995) Chemical processing and applications for nanostructured materials. *Nanostruct.Matls.* **6** 227-236

Kim, K. and Rye, C.K. (1994) Generation of charged liquid cluster beam of liquid-mix precursors and applications to nanostructured materials. *Nanostruct.Matls* **4** 597-602

Kizaki, Y., Osada, H. and Aoki, H. (1993) Ultrafine particle beam deposition III: Applications to thermoelectric materials. *Jpn. J. Appl. Phys.* **32** 5778-5790.

Klabunde, K.J. (1994) Free atoms ,clusters, and nanoscale particles. Academic Press, San Diego.

Knutson, E.O. and Whitby, K.T. (1975) Aerosol classification by electric mobility: Apparatus, theory, and applications. *J. Aerosol Sci.* **6** 443-451

Koch, W. and Friedlander, S.K. (1990) The effect of particle coalescence on the surface area of a coagulating aerosol. *J. Colloid Interface Sci.* **140** 419-427

Koch, F. and Petrova-Koch, V. (1996) Light from Si-nanoparticle systems - a comprehensive view. *J. of Non-Cryst. Solids* **198-200** 840-846.

Kodas, T.T., Engler, E.M., Lee, V.Y., Jacowitz, R., Baum, T.H., Roche, K., Parkin, S.S.P., Young, W.S., Hughes, S., Kleder, J. and Auser, W. (1988) Aerosol flow reactor production of fine $Y_1Ba_2Cu_3O_7$ powder: Fabrication of superconducting ceramics. *Appl. Phys. Lett.* **52** (19) 1622-1624

Kodas, T.T., Engler, E.M. and Lee, V.Y. (1989) Generation of thick $Ba_2YCu_3O_7$ films by aerosol deposition. *Appl. Phys. Lett.* **54** (19) 1923-1925

Kohl, D. (1989) Surface processes in the detection of reducing gases with SnO_2 -based devices. *Sensors and Actuators* **18** 71-113

Koyama, T., Ohtsuka, S., Nagata, H. and Tanaka, S. (1992) Fabrication of microcrystallites of II-VI compound semiconductors by laser ablation method, *J. Crystal Growth* **117** 156-160

Kreibig, U. (1974) Electronic properties of small silver particles: the optical constants and their temperature dependence. *J. Phys. F: Metal Phys.* **4** 999-1014

Kruis, F.E., Scarlett, B., Bauer, R.A. and Schoonman, J. (1992) Thermodynamic Calculations on the Chemical Vapor Deposition of Silicon Nitride and Silicon from Silane and Chlorinated Silanes. *J. Am. Ceram. Soc.* **75**(3) 619-628

Kruis, F.E., Kusters, K.A., Pratsinis, S.E. and Scarlett, B. (1993) A Simple Model for the Evolution of the Characteristics of Aggregate Particles undergoing Coagulation and Sintering. *Aerosol Sci. Technol.* **19** 514-526

Kruis, F.E., Goossens, A. and Fissan, H. (1996) Synthesis of Semiconducting Nanoparticles. *J. Aerosol Sci.* **27** S1 165-166

Kruis, F.E., Otten, F., Jordan F., and Fissan, H (1998a) A new efficient unipolar charger for nanoparticles. *J. Aerosol Sci.* **29** 1021-1022

Kruis, F.E., Oostra, W., Marijnissen, J., Schoonman, J., Scarlett, B. (1998b) Particle formation paths in the synthesis of silicon nitride powder in a laser-heated aerosol reactor. *J. Eur. Ceram. Soc.* **18** 1025-1036

Kruis, F.E., Nielsch, K., Fissan, H., Rellinghaus, B. and Wassermann, E.F. (1998c) Preparation of size-classified PbS nanoparticles in the gas phase. *Appl. Phys. Lett.* **73** 4 547-549

Kruis, F.E., Fissan, H. and Peled, A. (1998d) Synthesis of nanoparticles in the gas phase for electronic, optical and magnetic applications - A review. *J.Aerosol Sci* **29** 5/6 511-535

Kruis, F.E. Maisels, A. and Fissan, H. (2000a) A Direct-Simulation Monte Carlo Method for Particle Coagulation and Aggregation. *AIChE J.* **46**, 1735-1742

Kruis, F.E., Fissan, H. and Rellinghaus, B. (2000b) Sintering and Evaporation Characteristics of Gas-phase Synthesis of Size-selected PbS Nanoparticles. *Mat.Sci.Eng.* **B 69-70** 329-334

Kruis, F.E. and Fissan, H. (2001) Nanoparticle charging using a twin Hewitt charger. *J. Nanoparticle Res.* **3** 39-50

Kundu, T.K. and Chakravorty, D. (1995) Nanocomposite films of lead zirconate titanate and metallic nickel by sol-gel route. *Appl.Phys.Lett.* **66** (26) 3576-3578

Kundu, T.K. and Chakravorty, D. (1996) Electrical properties of sol-gel derived films containing composites of glass-ceramics and nanocrystalline silver. *J.Mater.Res.* **11**(1) 200-203

Labeau, M., Gautheron, B., Cellier, F., Vallet-Regi, M., Garcia, E. and Gonzalez Calbet, J.M. (1993) Pt nanoparticles dispersed on SnO₂ thin films: a microstructural study. *J.Sol. St.Chem* **102** 434-439

Labeau, M., Gas'kov, A.M., Gautheron, B. and Senateur, J.P. (1994) Synthesis of Pd-doped SnO₂ films on silicon and interaction with ethanol and CO. *Thin Solid Films* **248** 6-11

Landgrebe, J.D., and S.E. Pratsinis (1990) A Discrete-sectional Model for Particulate Production by Gas-phase Chemical Reaction and Aerosol Coagulation in the Free-molecular Regime. *J. Colloid Interface Sci.*, **139** 63-86

Lee, D.H., Vuong, K.D., Williams, J.A.A., Fagan, J., Condrate, R.A. and Wang, X.W. (1996) RF aerosol plasma fabrication of indium tin oxide and tin oxide thin films. *J.Mater.Res.* **11** (4) 895-903

Leong, K.H. (1987) Morphological control of particles generated from the evaporation of solution droplets: theoretical considerations. *J.Aerosol Sci.* **18** (5) 511-524

- Li, C. and Hua, B. (1997) Preparation of nanocrystalline SnO₂ thin film coated Al₂O₃ ultrafine particles by fluidized chemical vapor deposition. *Thin Solid Films*, **310** 238-240
- Li, Y., Gong, W., Hadjipanayis, G.C., Sorensen, C.M., Klabunde, K.J., Papaefthymiou, V., Kostikas, A., Simopolous, A. (1994) Size effects on the magnetic properties of fine Fe-Cr particles. *J. Magn.Magn.Mater.* **130** 261-266
- Liffman, K (1992) A Direct Simulation Monte Carlo Method for Cluster Coagulation. *J. Comp. Phys.*, **100** 116-127
- Linderoth, S. and Moerup, S. (1990) Ultrasmall iron particles prepared by use of sodium amalgam. *J.Appl. Phys.* **67** (9) 4496-4498
- Litster, J.D., D.J. Smit and M.J. Hounslow (1995) Adjustable Discretized Population Balance for Growth and Aggregation. *AIChE J.* **41** 591-603
- Littau, K.A., Szajowski, P.J., Muller, A.J., Kortan, A.R. and Brus, L.E. (1993) A luminescent silicon nanocrystal colloid via a high temperature aerosol reaction. *J.Phys.Chem.* **97** 1224-1230
- Lopez-Otero, A. (1978) Hot wall epitaxy. *Thin Solid Films* **49** 1-57
- Lushnikov, A.A. (1976) Evolution of Coagulating Systems. III. Coagulating Mixtures, *J. of Colloid Interface Sci.*, **54** 94-101
- Lüth, H. (1995) Nanostructures and semiconductor electronics. *Phys.Stat.Sol. B* **192** 287-299
- Lyons, S.W., Wang, L.M. and Kodas, T.T. (1992) Nanophase oxide formation by intraparticle reaction. *Nanostruct.Matls.* **1** 283-291
- Machol, J.L., Wise, F.W., Patel, R., and Tanner, D.B. (1994) Optical studies of IV-VI quantum dots. *Physica A* **207** 427-34
- Maisels, F.E. Kruis, H. Fissan, B. Rellinghaus, H. Zähres (2000) Synthesis of tailored composite nanoparticles in the gas phase. *Appl.Phys.Lett.* **77**, 4431-4433

Majima, T., Miyahara, T., Haneda, K., Ishii, T. and Takami, M. (1994) Preparation of Iron ultrafine particles by the dielectric breakdown of $\text{Fe}(\text{CO})_5$ using a transversely excited atmospheric CO_2 laser and their characteristics. *Jpn.J.Appl.Phys.* **33** 4759-4763

Matsoukas, T. and Friedlander, S.K. (1991) Dynamics of Aerosol Agglomerate Formation. *J. of Colloid Interface Sci.* **146** 495-518

Maximov, I., Gustfsson, A., Hansson, H.-C., Samuelson, L., Seifert, W. and Wiedensohler, A. (1993) Fabrication of quantum dot structures using aerosol deposition and plasma etching techniques. *J.Vac.Sci.Technol. A* **11** (4) 748-753

Mezey, L.Z. and Giber (1982) *Jpn.J.Appl.Phys.* **21** 1569

Mimura, H., Matsumoto, T. and Kanemitsu, Y. (1994) Blue electroluminescence from porous silicon carbide *Appl.Phys.Lett.* **65** 3350-3352

Mizuguchi, Y., Kagawa, M., Suzuki, M., Syono, Y. and Hirai, T. (1994) Synthesis of ultrafine particles and thin films of $\text{BaFe}_{12}\text{O}_{19}$ by the spray-ICP technique. *Nanostruct.Matls.* **4** 591-596

Moulson, A.J. and Herbert, J.M. (1990) *Electroceramics - Materials, properties, applications.* Chapman and Hall, London, UK.

Nenadovic, M.T., Comor, M.I., Vasic, V., Micic, O.I. (1990) Transient bleaching of small PbS colloids: Influence of surface properties. *J. Phys.Chem.* **94** 6390-6396

Oda, M., Fuchita, E., Tsuneizumi, M., Kashu, S. and Hayashi, C. (1992) Gas deposition films of ultra fine particles. *Nanostruct.Matls.* **1** 203-206

Ogawa, H., Abe, A., Nishikawa, M. and Hayakawa, S. (1981a) Preparation of tin oxide films from ultrafine particles. *J.Electrochem.Soc.* **128** (3) 685-689

Ogawa, H., Abe, A., Nishikawa, M. and Hayakawa, S. (1981b) Electrical properties of tin oxide ultrafine particle films. *J.Electrochem.Soc.* **128** (9) 2020-2025

Ogawa, H., Nishikawa, M. and Abe, A. (1982) Hall measurement studies and an electrical conduction model of tin oxide ultrafine particle films. *J.Appl.Phys.* **53**(6) 4448-4455

Ohtsuka, S., Koyama, T., Tsunetomo, K., Nagata, H. and Tanaka, S. (1992) Nonlinear optical properties of CdTe microcrystallites doped glasses fabricated by laser evaporation method. *Appl.Phys.Lett.* **61** (25) 2953-2954

Okuyama, K., Shimada, M., Adachi, M. and Tohge, N. (1993) Preparation of ultrafine superconductive Bi-Ca-Sr-Cu-O particles by metalorganic chemical vapor deposition. *J. Aerosol Sci.* **24** (3) 357-366

Oron, A. and Seinfeld, J.H. (1989) The dynamic behavior of charged aerosols. Part II: Numerical solution by the sectional method. *J. Colloid Interface Sci.* **133** 66-80

Otto, E., Gutsch, A. and Fissan, H. (1996) Gas Cleaning Due to Enhanced Bipolar Coagulation. *Proc. 3d Int. Symposium and Exhibition on Gas Cleaning at High Temperatures*, Karlsruhe (edited by Eberhard Schmidt, Peter Gäng, Torsten Pilz and Achim Dittler), pp. 48-59.

Otto, E. (1997) *Modellierung Brownscher und elektrischer Koagulation submikroner Partikel*. PhD Thesis, Gerhard-Mercator-Universität GH Duisburg. Shaker Verlag, Aachen.

Otto, E. and Fissan, H. (1999) Brownian Coagulation of Submicron Particles. *Adv. Powder Technol.* **10** 1-20

Panda, S. and Pratsinis, S. (1995) *J.Nanostruct.Mater.* **5**, 755

Parker, J.C. (1996) Commercialization opportunities for nanophase ceramics : a small-company perspective, pp. 573-581 in: „Nanomaterials: synthesis, properties and applications“, ed. by A.S. Edelstein and R.C.Cammarata, Institute of Physics Publishing, Bristol, UK

Pearson, W.B. (1967) *A handbook of lattice spacings and structures of metals and alloys*. 2nd edition, Vol. 2, Part 1, p. 353 (Pergamon Press, Oxford)

Pearson, H.J. (1984) Monte Carlo Simulations of Coagulation in Discrete Particle-size Distributions. Part 1. Brownian Motion and fluid shearing. *J. Fluid Mech.* **143** 367-385

Pehnt, M., Schulz, D.L., Curtis, C.J., Jones, K.M. and Ginley, D.S. (1995) Nanoparticle precursor route to low-temperature spray deposition of CdTe thin films. *Appl.Phys.Lett.* **67** (15) 2176-2178

Peled, A., Friesem, A.A. and Shapira, Y. (eds.) (1996) Proceedings of the Second International Conference on Photo-excited Processes and Applications. *Appl.Surf.Sci.* **106** pp.1-540

Peled, A. (1997) Review: State of the art in liquid phase photodeposition processes and applications(LPPD).*Lasers in Engineering.***6** 41-72

Peyghambarian, N., Hanamura, E., Koch, S.W., Masumoto, Y. and Wright, E.M. (1996) Optical characterization and applications of semiconductor quantum dots, pp. 395-436 in: „Nanomaterials: synthesis, properties and applications“, ed. by A.S. Edelstein and R.C.Cammarata, Institute of Physics Publishing, Bristol, UK

Piskunov, V.N., Golubev, A.I., Goncharov, E.A. and Izmailova, N.A. (1997) Kinetic Modeling of Composite Particles Coagulation. *J. Aerosol Sci.* **28** 1215-1231

Powers, D.E., Hansen, S.G., Guesic, M.E., Pulu, A.C., Hopkins, J.B., Dietz, J.B., Duncan, M.A., Langridge-Smith, P.R.R. and Smlley, R.E. (1982) Supersonic metal cluster beams: laser photoionization studies of Cu₂. *J.Phys.Chem.* **86** 2556-2560

Pratsinis, S.E. (1988) Simultaneous Nucleation, Condensation and Coagulation in Aerosol Reactors. *J. Colloid Interface Sci.*, **124** 416

Prokes, S.M. (1996) Porous silicon nanostructures, pp. 439-457 in: „Nanomaterials: synthesis, properties and applications“, ed. by A.S. Edelstein and R.C.Cammarata, Institute of Physics Publishing, Bristol, UK

Prost, W., Kruis, F.E., Otten, F., Nielsch, K., Rellinghaus, B., Auer, U., Peled, A., Wassermann, E.F., Fissan, H. and Tegude, F.J. (1998) Monodisperse aerosol particle deposition: Prospects for nanoelectronics, *J. Microelect. Eng.* **41/42** 535-538

Qin, X.Y., Wu, B.M., Du, Y.L., Zhang, L.D. and Tang, H.X. (1996) An experimental study of thermal diffusivity of nanocrystalline Ag. *Nanostruct.Matls.* **7** 383-391

Rao, N., Micheel, B., Hansen, D., Fandrey, C., Bench, M., Girshick, S., Heberlein, J. and McMurry, P. (1995a) Nanoparticle formation using a plasma expansion process. *Plasma Chem.Plasma Process.* **15** (4) 581-606

Rao, N., Micheel, B., Hansen, D., Fandrey, C., Bench, M., Girshick, S., Heberlein, J. and McMurry, P. (1995b) Synthesis of nanophase silicon, carbon, and silicon carbide powders using a plasma expansion process. *J.Mater.Res.* **10** (8) 2073-2084

Reed, T.B. (1961) Induction-coupled plasma torch. *J.Appl.Phys.* **32** (5) 821-824

Rubinstein, R.Y. (1981) *Simulation and the Monte Carlo Method*. John Wiley and Sons, New York, p. 91

Rulison, A.J. and Flagan, R.C. (1994) Synthesis of yttria powders by electrospray pyrolysis. *J.Am.Ceram.Soc.* **77** 3244-3250

Salata, O.V., Dobson, P.J., Hull, P.J. and Hutchison, J.L. (1994a) Fabrication of PbS nanoparticles embedded in a polymer film by gas-aerosol reactive electrostatic deposition technique. *Adv.Mater.* **6**(10) 772-775

Salata, O.V., Dobson, P.J., Hull, P.J. and Hutchison, J.L. (1994b) Fabrication of CdS nanoparticles embedded in a polymer film by gas-aerosol reactive electrostatic deposition technique. *Thin Solid Films* **251** 1-3

Salazar, K.V., Ott, K.C., Dye, R.C., Hubbard, K.M., Peterson, E.J. and Coulter, J.Y. (1992) Aerosol assisted chemical vapor deposition of superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$. *Physica C* **198** 303-308

Sanjines, R., Demarne, V. and Levy, F. (1990) Hall effect measurements in SnOx film sensors exposed to reducing and oxidizing gases. *Thin Solid Films* **193** 935-942

Sarkas, H.W., Arnold, S.T., Hendricks, J.H., Kidder, L.H., Jones, C.A. and Bowen, K.H. (1993) An investigation of catalytic activity in mixed metal oxide nanophase materials. *Z.Phys.D* **26** 46-50

Saunders, W.A., Sercal, P.C., Atwater, H.A., Vahala, K.J. and Flagan, R.C. (1992) Vapor phase synthesis of crystalline nanometer-scale GaAs clusters. *Appl.Phys.Lett.* **60** (8) 950-952

Saunders, W.A., Sercel, P.C., Lee, R.B., Atwater, H.A., Vahala, K.J., Flagan, R.C. and Escorcia-Aparicio, E.J. (1993a) Synthesis of luminescent silicon clusters by spark ablation. *Appl.Phys.Lett.* **63** 1549-1551

Saunders, W.A., Sercel, P.C., Flagan, R.C., Atwater, H.A. and Vahala, K.J. (1993b) The role of Ga-droplet formation in nanometer-scale GaAs cluster synthesis from organometallic precursors. *Z.Phys.D.* **26** 219-221

Scheibel, H.G. and Porstendörfer, J. (1983) Generation of monodisperse Ag- and NaCl-aerosol with particle diameters between 2 and 300 nm. *J.Aerosol Sci.* **14** 113-126

Schmatz, U., Delabouglise, G., Labeau, M. and Garden, J. (1994) Electrical and microstructural studies of SnO₂ ceramics obtained by tin sulfate pyrolysis. *J.Electrochem.Soc.* **141** (11) 3254-3258

A. Schmidt-Ott, J. (1988) *J. Aerosol Sci.* **19** 553

Seraphim, A.A., Ngiam, S.-T. and Kolenbrander, K.D. (1996) Surface control of luminescence in silicon nanoparticles. *J.Appl.Phys.* **80** (11) 6429-6433

Sercel, P.C., Saunders, W.A., Atwater, H.A., Vahala, K.J. and Flagan, R.C. (1992) Nanometer-scale GaAs clusters from organometallic precursors. *Appl.Phys.Lett.* **61** (6) 696-698

Service, R.F. (1996) Small clusters hit the big time. *Science* **271** 920-922

Seto, T., Shimada, M. and Okuyama, K. (1995) Evaluation of sintering of nanometer-sized titania using aerosol method. *Aerosol Sci. Technol.* **23** 183-200

Seto ,T., Nakamoto, T., Okuyama, K., Adachi, A., Kuga, Y. and Takeuchi, K. (1996) Size distribution measurements of nanometer-sized aerosol particles using DMA under low-pressure conditions. *J. Aerosol Sci.* **28** 193-206

Shah, B.H., D. Ramkrishna and J.D. Borwanker (1977) Simulation of Particulate Systems Using the Concept of the Interval of Quiescence. *AIChE J* **23** 897-904

Shi, J., Gider, S., Babcock, K. and Awschalom, D.D. (1996) Magnetic clusters in molecular beams, metals, and semiconductors. *Science*, **271** 937-941

Siegel, R.W. (1994) Nanophase materials: Synthesis, structure, and properties. Pp. 65-105, Vol. 26 in „Series in material sciences“, Springer-Verlag, Berlin. Ed. by F.E.Fujita.

Smoluchowski, M.V. (1917) Versuch zur Mathematischen Theorie der Koagulationskinetik Kolloider Lösungen. *Z. Phys. Chem.* **92** 129-168

Spouge, J.L. (1983) Solutions and critical times for the polydisperse coagulation equation when $a(x, y) = A + B(x + y) + Cxy$. *J. Phys. A: Math. Gen.* **16** 3127-3130

Stratmann, F., Wiedensohler, A., Maximov, I., Samuelson, L., Hansson, H.-C., Fissan, H. (1993) Deposition of ultrafine particles on semiconductors for use as dry etching masks: Numerical calculation and experimental verification. *J. Aerosol Sci.* **24** (5) 687-690

Takagi, H., Ogawa, H., Yamazaki, Y., Ishizaki, A. and Nakagiri, T. (1990) Quantum size effects on photoluminescence in ultrafine Si particles. *Appl. Phys. Lett.* **56** 2379-2380

Takao, Y., Awano, M., Kuwahara, Y. and Murase, Y. (1996) Preparation of oxide superconductive composite by an electrostatic mixing process. *Sensors and Actuators B* **31** (1-2) 131-133

Tamir, S. and Berger, S. (1995) Laser induced deposition of nanocrystalline Si with preferred crystallographic orientation. *Appl. Surf. Sci.* **86** 514-520

Tang, Z.X., Nafis, S., Sorensen, C.M., Hadjipanayis, G.C. and Klabunde, K.J. (1989) Magnetic properties of aerosol synthesized barium ferrite particles. *IEEE Trans. Magn.* **25** (5) 4236-4238

Tasaki, A., Tomiyama, S., Iida, S., Wada, N. and Uyeda, R. (1965) Magnetic properties of ferromagnetic metal fine particles prepared by evaporation in argon gas. *Jap. J. Appl. Phys.* **4** (10) 707-711

Thielsch, R., Böhme, T., Reiche, R., Schläfer, D., Bauer, H. -D. and Böttcher, H. (1998) Quantum-size effects of PbS nanocrystallites in evaporated composite films. *Nanostr. Mater.* **10** 131-149

Tolbert, S.H. and Alivisatos, A.P. (1995) High-pressure structural transformations in semiconductor nanocrystals. *Ann. Rev. Phys. Chem.* **46** 595-625

Tourtin, F., Daviero, S., Ibanez, A., Haidoux, A., Avinens, C., Philippot, E. (1995) Low temperature deposition of gallium phosphate amorphous dielectric thin films by aerosol CVD, *J. of Non-Cryst. Solids*, **187** 435-442.

Turner, J.R., Kodas, T.T. and Friedlander, S.K. (1988) Monodisperse particle production by vapor condensation in nozzles. *J.Chem.Phys.* **88** (1) 457-465

Vemury, S., K. Kusters and S.E. Pratsinis (1994) Time-Lag for Attainment of the Self-preserving Particle Size Distribution by Coagulation. *J. Colloid Interface Sci.* **165** 53-59

Vemury, S., Pratsinis, S.E. and Kibbey, L. (1997) Electrically controlled flame synthesis of nanophase TiO₂, SiO₂ and SnO₂ powders. *J.Mater.Res.* **12** 1031-1042

Vemury, S., C. Janzen, C. and S.E. Pratsinis (1997) Coagulation of Symmetric and Asymmetric Bipolar Aerosols. *J. Aerosol Sci.* **28** 599-609

Venkatesan, T. and Green, S. (1996) Pulsed-laser deposition: Thin films in a flash. *Industrial Physicist* **2** (3) 22-24

Vezzoli, G.C., Chen, M.F. and Caslavsky, J. (1994) New high dielectric constant materials: micro/nanocomposites of suspended Au clusters in SiO₂/SiO₂-Al₂O₃-Li₂O gels and relevant theory for high capacitance applications. *Nanostruct.Matls.* **4** 985-1009

Viswanath, R.N., Ramasamy, S., Ramamoorthy, R., Jayavel, P. and Nagarajan, T. (1995) Preparation and characterization of nanocrystalline ZnO based materials for varistor applications. *Nanostruct.Matls.* **6** 993-996

Volkening, F.A., Naidoo, M.N., Candela, G.A., Holtz, R.L. and Provenzano, V. (1995) Characterization of nanocrystalline palladium for solid state gas sensor applications. *Nanostruct.Matls.* **5** (3) 373-382

Vollath, D., Szabo, D.V., Taylor, R.D., Willis, J.O. and Sickafus, K.E. (1995) Synthesis and properties of nanocrystalline superparamagnetic γ -Fe₂O₃. *Nanostruct.Matls.* **6** (1995) 941-944

Vollath, D. and Sickafus, K.E. (1992) Synthesis of nanosized ceramic oxide powders by microwave plasma reactions. *Nanostruct.Matls* **1** 427-437

Wang, Y., Suna, A., Mahler, W. and Kasowski, R. (1987) PbS in polymers. From molecules to bulk solids. *J. Chem. Phys.* **87** 7315-7322

Wang, J and Xiao, G. (1994) Transition-metal granular solids: Microstructure, magnetic properties, and giant magnetoresistance. *Phys.Rev.B* **49** 3982-3996

Wang, X.W., Zhong, H.H. and Snyder, R.L. (1990) RF plasma aerosol deposition of superconductive $Y_1Ba_2Cu_3O_{7-d}$ films at atmospheric pressure. *Appl. Phys. Lett.* **57**(15) 1581-1583

Wautelet, M. (1991) Estimation of the variation of the melting temperature with the size of small particles, on the basis of a surface-phonon instability model. *J.Phys.D: Appl.Phys.* **24** 343-346

Weisbuch, C. and Vinter, B. (1991) Quantum semiconductor structures: fundamentals and applications. Academic Press, San Diego, USA.

Weissmüller, J. (1996) Characterization by scattering techniques and EXAFS. pp. 219-276 in: „Nanomaterials: synthesis, properties and applications“, ed. by A.S. Edelstein and R.C.Cammarata, Institute of Physics Publishing, Bristol, UK

Weller, H. (1993) Colloidal semiconducting Q-particles: Chemistry in the transition region between solid state and molecules. *Angew.Chem.Int.Ed.Engl.* **32** 41-53

Werwa, E., Seraphin, A.A., Chiu, L.A., Zhou, C. and Kolenbrander, K.D. (1994) Synthesis and processing of silicon nanocrystallites using a pulsed laser ablation supersonic expansion method. *Appl.Phys.Lett.* **64** (14) 1821-1823

Wiedensohler, A., Büscher, P., Hansson, H.-C., Martinsson, B.G., Stratmann, F. , Ferron, G. and Busch, B. (1994) *J. Aerosol Sci.* **25** 639

Wiedensohler, A. (1988) An Approximation of the Bipolar Charge Distribution for Particles in Submicron Size Range. *J. Aerosol Sci.* **19** 387-394

Wiedensohler, A., Hansson, H.-C., Maximov, I. and Samuelson, L. (1992) Nanometer patterning of InP using aerosol and plasma etching techniques. *Appl.Phys.Lett.* **61** (7) 837-839

Wilson, W.L., Szajowski, P.F. and Brus, L.E. (1993) Quantum confinement in size-selected, surface-oxidized silicon nanocrystals. *Science* **262** 1242-1244

Woodruff, D.W. and Redwing, J.M. (1991) Chemical vapor deposition of fine-grained equiaxed tungsten films. *Surf.Coat.Technol.* **49** 215-220

Xiao, G. and Chien, C.L. (1987) Giant magnetic coercivity and percolation effects in granular Fe-(SiO₂) solids. *Appl.Phys.Lett.* **51** (16) 1280-1282

Xiong, Y. and S.E. Pratsinis (1993) Formation of Agglomerate Particles by Coagulation and Sintering: I. A Two-Dimensional Solution to the Population Balance Equation. *J. Aerosol Sci.* **24** 283-292

Xu, C., Tamaki, J., Miura, N. and Yamazoe, N. (1991) Grain size effects on gas sensitivity of porous SnO₂-based elements. *Sensors and Actuators B* **3** 147-155

Xu, C.; Hampden-Smith, M.J.; Kodas, T.T. (1994) Aerosol-assisted chemical vapor deposition (AACVD) of silver, palladium and metal alloy (Ag_{1-x}Pd_x, Ag_{1-x}Cu_x and Pd_{1-x}Cu_x) films. *Adv. Mater* **6** (10) 746-748

Yamada, I., Usui, H. and Takagi, T. (1987) Formation mechanism of large clusters from vaporized solid material. *J.Phys.Chem.* **91** 2463-2468

Yamamoto, T. and Mazumder, J. (1996) Synthesis of nanocrystalline NbAl₃ by laser ablation technique. *Nanostruct.Matls.* **7** 305-312

Yamauchi, K. and Yoshizawa, Y. (1995) Recent development of nanocrystalline soft magnetic alloys. *Nanostruct.Matls.* **6** 247-254

Yoffe, A.D. (1993) Low-dimensional systems: quantum size effects and electronic properties of semiconductor microcrystallites (zero-dimensional systems) and some quasi-two-dimensional systems. *Adv.Phys.* **42** (2) 173-266

Yoshizawa, Y., Oguma, S. and Yamauchi, K. (1988) New Fe-based soft magnetic alloys composed of ultrafine grain structure. *J.Appl.Phys.* **64** (10) 6044-6046

Young, R.M. and Pfender, E. (1985) Generation and behavior of fine particles in thermal plasmas - A review. *Plasma Chem.Plasma Process.* **5** (1) 1-37

Yu, B., Zhu, C. and Gan, F. (1997) Exciton spectra of SnO₂ nanocrystals with surficial dipole layer. *Opt.Mater.* **7** 15-20

Zachariah, M.R., Aquino, M.I., Shull, R.D. and Steel, E.B. (1995) Formation of superparamagnetic nanocomposites from vapor phase condensation in a flame. *Nanostruct.Matls.* **5** 383-392

Zhang, S.C., Messing, G.L. and Huebner, W. (1991) YBa₂Cu₃O_{7-d} superconductor powder synthesis by spray pyrolysis of organic acid solutions. *J.Aerosol Sci.* **22**(5) 585-599

Zhao, X.K. and McCormick, L.D. (1992) Oriented crystal particles of semiconductor PbS on Langmuir monolayer surfaces. *Appl.Phys.Lett* **61** 849-851

Zhao, D. and Pan, X. (1994) Investigation of optical and electrical properties of ZnO ultrafine particle films prepared by direct current gas discharge activated reactive method. *J.Vac.Sci.Technol. B* **12**(5) 2880-2883

Zhu, Y., Lu, H., Lu, Y. and Pan, X. (1993) Characterization of SnO₂ films deposited by d.c. gas discharge activating reaction evaporation onto amorphous and crystalline substrates. *Thin Solid Films* **224** 82-86