

## BIBLIOGRAPHY

- Antony, J. K., Vasa, N. J., Chakravarthy, S. R., & Sarathi, R. (2010). Understanding the mechanism of nano-aluminum particle formation by wire explosion process using optical emission technique. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 111(17-18), 2509-2516.
- Bennett, F. D. (1968). High-temperature exploding wires. In C. A. Rouse (Ed.), *Progress in high temperature physics and chemistry* (Vol. 2, pp. 1-63). Oxford: Pergamon Press.
- Bluhm, H. (2006). *Pulsed power systems: Principles and applications*. Germany: Springer.
- Callister, W. D. (2007). *Materials science and engineering: An introduction* (7th ed.). New York: John Wiley and Sons.
- Cao, G. (2004). *Nanostructures and nanomaterials: Synthesis, properties and applications*. London: Imperial College Press.
- Cash, L. (1999). Exploding wire phenomena in various micron diameter graphite and stainless steel fibers. Doctoral Thesis, John Hopkins University, Baltimore.
- Chace, W. G. (1959). A brief survey of exploding wire research. In W. G. Chace & H. K. Moore (Eds.), *Exploding Wires* (pp. 7-16). New York: Plenum Press.
- Chace, W. G. (1963). Exploding wires and their uses. *New Scientist*, 18, 386-388.
- Chace, W. G. (1964). Exploding wires. *Physics Today*, 17, 19-24.
- Chace, W. G., & Morgan, R. L. (1959). Conductivity during the "dwell-time" of a wire explosion. In W. G. Chace & H. K. Moore (Eds.), *Exploding Wires* (pp. 7-16). New York: Plenum Press.
- Chace, W. G., & Watson, E. M. (1962). *A bibliography of the electrically exploded conductor phenomenon*. (621053). Virginia: Defense Technical Information Center.
- Chace, W. G., & Watson, E. M. (1965). *A bibliography of the electrically exploded conductor phenomenon, suppl. no. 1*. (AFCRL65384). Virginia: Defense Technical Information Center.

Chace, W. G., & Watson, E. M. (1967). *A bibliography of the electrically exploded conductor phenomenon, 4th Ed.* (AFCRL-67-0556). Virginia: Defense Technical Information Center.

Chae, J. O., Jeong, Y. J., Shmelev, V. M., Denicaev, A. A., Poutchkov, V. M., & Ravi, V. (2006). Plasma discharge initiation of explosives in rock blasting application: A case study. *Plasma Science and Technology*, 8(4), 443-446.

Chandler, K. M., Hammer, D. A., Sinars, D. B., Pikuz, S. A., & Shelkovenko, T. A. (2002). The relationship between exploding wire expansion rates and wire material properties near the boiling temperature. *IEEE Transactions on Plasma Science*, 30(2), 577-587.

Cho, C., Kinemuchi, Y., Suematsu, H., Jiang, W., & Yatsui, K. (2003). Enhancement of nitridation in synthesis of aluminum nitride nanosize powders by pulsed wire discharge. *Japanese Journal of Applied Physics*, 42(4A), 1763-1765.

Cho, C., Murai, K., Suzuki, T., Suematsu, H., Jiang, W., & Yatsui, K. (2004). Enhancement of energy deposition in pulsed wire discharge for synthesis of nanosized powders. *IEEE Transactions on Plasma Science*, 32(5), 2062-2067.

Debalina, B., Kamaraj, M., Murthy, B. S., Chakravarthi, S. R., & Sarathi, R. (2010). Generation and characterization of nano-tungsten carbide particles by wire explosion process. *Journal of Alloys and Compounds*, 496(1-2), 122-128.

Dong, S. S., Xou, G. T., & Yang, H. B. (2001). Thermal characteristic of ultrafine-grained aluminum produced by wire electrical explosion. *Scripta Materialia*, 44(1), 17-23.

Duselis, P. U., Vaughan, J. A., & Kusse, B. R. (2004). Factors affecting energy deposition and expansion in single wire low current experiments. *Physics of Plasmas*, 11(8), 4025-4031.

Fan, H.-T., Zeng, Y., Yang, H.-B., Zheng, X.-J., Liu, L., & Zhang, T. (2008). Preparation and gas sensitive properties of ZnO-CuO nanocomposites. *Acta Physico - Chimica Sinica*, 24, 1-9.

Feynman, R. P. (1992). There's plenty of room at the bottom. *Journal of Microelectromechanical Systems*, 1(1), 60-66.

Freestone, I., Meeks, N., Sax, M., & Higgitt, C. (2007). The Lycurgus cup - A Roman nanotechnology. *Gold Bulletin*, 40, 270-277.

Fu, Y., & Shearwood, C. (2004). Characterization of nanocrystalline TiNi powder. *Scripta Materialia*, 50(3), 319-323.

Giri, V. S., Sarathi, R., Chakravarthy, S. R., & Venkatasethaiah, C. (2004). Studies on production and characterization of nano-Al<sub>2</sub>O<sub>3</sub> powder using wire explosion technique. *Materials Letters*, 58(6), 1047-1050.

Gromov, A. A., Förter-Barth, U., & Teipel, U. (2006). Aluminum nanopowders produced by electrical explosion of wires and passivated by non-inert coatings: Characterisation and reactivity with air and water. *Powder Technology*, 164(2), 111-115.

Guittoum, A., Layadi, A., Tafat, H., & Souami, N. (2010). Structural, microstructural and hyperfine properties of nanocrystalline iron particles. *Journal of Magnetism and Magnetic Materials*, 322(5), 566-571.

Hess, H., Kloss, A., Rakhel, A., & Schneidenbach, H. (1999). Determination of thermophysical properties of fluid metals by wire-explosion experiments. *International Journal of Thermophysics*, 20(4), 1279-1288.

Hokamoto, K., Wada, N., Tomoshige, R., Kai, S., & Ujimoto, Y. (2009). Synthesis of TiN powders through electrical wire explosion in liquid nitrogen. *Journal of Alloys and Compounds*, 485(1-2), 573-576.

Jiang, W., & Yatsui, K. (1998). Pulsed wire discharge for nanosize powder synthesis. *IEEE Transactions on Plasma Science*, 26(5), 1498-1501.

Karioris, F. G., & Fish, B. R. (1962). An exploding wire aerosol generator. *Journal of Colloid Science*, 17, 155-161.

Kim, W., Park, J.-S., Suh, C.-Y., Ahn, J.-G., & Lee, J.-C. (2008). Cu-Ni-P alloy nanoparticles prepared by electrical wire explosion. *Journal of Alloys and Compounds*, 465(1-2), L4-L6.

Kim, W., Park, J.-S., Suh, C.-Y., Chang, H., & Lee, J.-C. (2007). Fabrication of alloy nanopowders by the electrical explosion of electrodeposited wires. *Materials Letters*, 61(21), 4259-4261.

Kim, W., Park, J. S., Suh, C. Y., Cho, S. W., & Lee, S. (2009). Ti-Cr nanoparticles prepared by electrical wire explosion. *Materials Transactions*, 50(9), 2344-2346.

Kinemuchi, Y., Ikeuchi, T., Suzuki, T., Suematsu, H., Jiang, W., & Yatsui, K. (2002). Synthesis of nanosize PZT powders by pulsed wire discharge. *IEEE Transactions on Plasma Science*, 30(5), 1858-1862.

Kinemuchi, Y., Ishizaka, K., Suematsu, H., Jiang, W., & Yatsui, K. (2002). Magnetic properties of nanosize NiFe<sub>2</sub>O<sub>4</sub> particles synthesized by pulsed wire discharge. *Thin Solid Films*, 407, 109-113.

Kinemuchi, Y., Sato, K., Watari, K., Cho, C., Murai, K., Suematsu, H., et al. (2004). Particle size distribution of SnO<sub>2</sub> nano-particles synthesized by pulsed wire discharge. *Journal of the Ceramic Society of Japan*, 112(7), 355-362.

Korneff, T., Bohn, J. L., & Nadig, F. H. (1959). Exploding wire phenomena at reduced pressures. In W. G. Chace & H. K. Moore (Eds.), *Exploding Wires* (pp. 104-117). New York: Plenum Press.

Korshunov, A., & Il'in, A. (2009). Oxidation of copper nanopowders on heating in air. *Russian Journal of Applied Chemistry*, 82(7), 1164-1171.

Kotov, Y. A. (2003). Electric explosion of wires as a method for preparation of nanopowders. *Journal of Nanoparticle Research*, 5, 539-550.

Kotov, Y. A. (2009). The electrical explosion of wire: A method for the synthesis of weakly aggregated nanopowders. *Nanotechnologies in Russia*, 4(7), 415-424. doi: 10.1134/s1995078009070039

Kotov, Y. A., Bagazeyev, A. V., Beketov, I. V., Murzakaev, A. M., Samatov, O. M., Medvedev, A. I., et al. (2005). Properties of nickel oxide nanopowders prepared by electrical explosion of a wire. *Technical Physics*, 50(10), 1279-1283.

Kotov, Y. A., Beketov, I. V., Demina, T. I., Murzakaev, A. M., Samatov, O. M., Schumacher, G., et al. (1995). Characteristics of ZrO<sub>2</sub> nanopowders produced by electrical explosion of wires. *Journal of Aerosol Science*, 26(Suppl.1), S905-S906.

Kvartskhava, I. F., Bondarenko, V. V., Pliutto, A. A., & Chernov, A. A. (1957). Oscillographic determination of energy of electric explosion of wires. *Journal of Experimental and Theoretical Physics*, 4(5), 623-775.

Kwon, Y. S., An, V. V., Ilyin, A. P., & Tikhonov, D. V. (2007). Properties of powders produced by electrical explosions of copper-nickel alloy wires. *Materials Letters*, 61(14-15), 3247-3250.

Kwon, Y. S., Ilyin, A. P., Tikhonov, D. V., Yablunovsky, G. V., & An, V. V. (2008). Characteristics of nanopowders produced by wire electrical explosion of tinned copper conductor in argon. *Materials Letters*, 62(17-18), 3143-3145.

Lebedev, S. V., & Savvatimskii, A. I. (1984). Metals during rapid heating by dense currents. *Soviet Physics Uspekhi*, 27(10), 749-771.

Lee, G., Rhee, C. K., Kim, W. W., Samatov, O. M., & Kotov, Y. A. (2004). Fabrication and characterization of nano Fe-Al mixture powders by the simultaneous pulsed wire evaporation method. *Journal of Industrial and Engineering Chemistry*, 10(6), 954-958.

Lee, G. H., Park, J. H., Rhee, C. K., & Kim, W. W. (2003). Fabrication of Al nano powders by pulsed wire evaporation (PWE) method. *Journal of Industrial and Engineering Chemistry*, 9(1), 71-75.

Lee, H. M., Uhm, Y. R., & Rhee, C. K. (2008). Phase control and characterization of Fe and Fe-oxide nanocrystals synthesized by pulsed wire evaporation method. *Journal of Alloys and Compounds*, 461(1-2), 604-607.

Lee, P., Suematsu, H., Jiang, W., Yatsui, K., & Niihara, K. (2006). Synthesis of  $\text{Al}_2\text{O}_3$ - $\text{ZrO}_2$  nanocomposite powders by pulsed wire discharge. *IEEE Transactions on Plasma Science*, 34(4), 1190-1194.

Lee, P. Y., Suematsu, H., Nakayama, T., Jiang, W., & Niihara, K. (2007). Synthesis of  $\text{ZnFe}_2\text{O}_4$  nanosized powders from pulsed metallic zinc and iron wire discharge in oxygen. *Journal of Magnetism and Magnetic Materials*, 312(1), 27-31.

Lerner, M. I., Shamanskii, V. V., Savel'ev, G. G., & Yurmalova, T. A. (2001). Chemical reactions between metals and active gases in the electric explosion of wires for the production of nanoparticles. *Mendeleev Communications*, 11(4), 159-161.

Mao, Z., Zou, X., Wang, X., & Jiang, W. (2009). Evolution of the electrically exploding wire observed with a Mach-Zehnder interferometer. *Applied Physics Letters*, 94(18), 181501.

Mao, Z., Zou, X., Wang, X., Liu, X., & Jiang, W. (2009). Circuit simulation of the behavior of exploding wires for nano-powder production. *Laser and Particle Beams*, 27(1), 49-55.

Muller, C. M., Mornaghini, F. C. F., & Spolenak, R. (2008). Ordered arrays of faceted gold nanoparticles obtained by dewetting and nanosphere lithography. *Nanotechnology*, 19(48), 485306.

Murai, K., Tokoi, Y., Suematsu, H., Jiang, W., Yatsui, K., & Niihara, K. (2008). Particle size controllability of ambient gas species for copper nanoparticles prepared by pulsed wire discharge. *Japanese Journal of Applied Physics*, 47(5), 3726-3730.

Murai, K., Watanabe, Y., Saito, Y., Nakayama, T., Suematsu, H., Jiang, W., et al. (2007). Preparation of copper nanoparticles with an organic coating by a pulsed wire discharge method. *Journal of Ceramic Processing Research*, 8(2), 114-118.

Nairne, E. (1774). Electrical experiments by Mr. Edward Nairne. *Philosophical Transactions of the Royal Society*, 64, 79-89.

Novac, B. M., Smith, I. R., Downs, P. R., Marston, P., & Fahey, D. (2007). Cockpit canopy shattering using exploding wire techniques. *Journal of Physics D: Applied Physics*, 40(7), 2217-2222.

Payne, A. N. (1988). The premelt dynamics of an exploding conductor circuit. *IEEE Transactions on Plasma Science*, 16(1), 39-46.

Phalen, R. F. (1972). Evaluation of an exploded-wire aerosol generator for use in inhalation studies. *Aerosol Science*, 3, 395-406.

Pikuz, S. A., Shelkovenko, T. A., Sinars, D. B., Greenly, J. B., Dimant, Y. S., & Hammer, D. A. (1999). Multiphase Foamlike Structure of Exploding Wire Cores. *Physical Review Letters*, 83(21), 4313-4316.

Roussikh, A. G., Oreshkin, V. I., Chaikovsky, S. A., Labetskaya, N. A., Shishlov, A. V., Beilis, I. I., et al. (2008). Study of the strata formation during the explosion of a wire in vacuum. *Physics of Plasmas*, 15(10), 102706.

Sangurai, C., Kinemuchi, Y., Suzuki, T., Jiang, W., & Yatsui, K. (2001). Synthesis of nanosize powders of aluminum nitride by pulsed wire discharge. *Japanese Journal of Applied Physics*, 40(2B), 1070-1072.

Sarathi, R., Sindhu, T. K., & Chakravarthy, S. R. (2007a). Generation of nano aluminium powder through wire explosion process and its characterization. *Materials Characterization*, 58(2), 148-155.

Sarathi, R., Sindhu, T. K., & Chakravarthy, S. R. (2007b). Impact of binary gas on nano-aluminium particle formation through wire explosion process. *Materials Letters*, 61(8-9), 1823-1826.

Sarathi, R., Sindhu, T. K., Chakravarthy, S. R., Sharma, A., & Nagesh, K. V. (2009). Generation and characterization of nano-tungsten particles formed by wire explosion process. *Journal of Alloys and Compounds*, 475(1-2), 658-663.

- Sarkisov, G. S., Rosenthal, S. E., Cochrane, K. R., Struve, K. W., Deeney, C., & McDaniel, D. H. (2005). Nanosecond electrical explosion of thin aluminum wires in a vacuum: Experimental and computational investigations. *Physical Review E*, 71(4), 046404.
- Sarkisov, G. S., Sasorov, P. V., Struve, K. W., McDaniel, D. H., Gribov, A. N., & Oleinik, G. M. (2002). Polarity effect for exploding wires in a vacuum. *Physical Review E*, 66(4), 046413.
- Sarkisov, G. S., Struve, K. W., & McDaniel, D. H. (2004). Effect of current rate on energy deposition into exploding metal wires in vacuum. *Physics of Plasmas*, 11(10), 4573-4581.
- Sarkisov, G. S., Struve, K. W., & McDaniel, D. H. (2005). Effect of deposited energy on the structure of an exploding tungsten wire core in a vacuum. *Physics of Plasmas*, 12(5), 052702.
- Saunders, W. A., Sercel, P. C., Atwater, H. A., Vahala, K. J., & Flagan, R. C. (1992). Vapor phase synthesis of crystalline nanometer-scale GaAs clusters. *Applied Physics Letters*, 60(8), 950-952.
- Schoenbach, K. H., Kristiansen, M., & Schaefer, G. (1984). A review of opening switch technology for inductive energy storage. *Proceedings of the IEEE*, 72(8), 1019-1040.
- Sedoi, V. S., & Ivanov, Y. F. (2008). Particles and crystallites under electrical explosion of wires. *Nanotechnology*, 19(14), 145710.
- Sedoi, V. S., Mesyats, G. A., Oreshkin, V. I., Valevich, V. V., & Chemezova, L. I. (1999). The current density and the specific energy input in fast electrical explosion. *IEEE Transactions on Plasma Science*, 27(4), 845-850.
- Shelkovenko, T. A., Sinars, D. B., Pikuz, S. A., & Hammer, D. A. (2001). Radiographic and spectroscopic studies of X-pinch plasma implosion dynamics and x-ray burst emission characteristics. *Physics of Plasmas*, 8(4), 1305-1318.
- Sindhu, T. K., Sarathi, R., & Chakravarthy, S. R. (2008). Understanding nanoparticle formation by a wire explosion process through experimental and modelling studies. *Nanotechnology*, 19(2), 025703.
- Spielman, R. B., Deeney, C., Chandler, G. A., Douglas, M. R., Fehl, D. L., Matzen, M. K., et al. (1998). Tungsten wire-array Z-pinch experiments at 200 TW and 2 MJ. *Physics of Plasmas*, 5(5), 2105-2111.

Stephanakis, S. J., Levine, L. S., Mosher, D., Vitkovitsky, I. M., & Young, F. (1972). Neutron production in exploding-wire discharges. *Physical Review Letters*, 29(9), 568-569.

Suematsu, H., Ishizaka, K., Kinemuchi, Y., Suzuki, T., Jiang, W., & Yatsui, K. (2004). Novel critical temperature resistor of sintered Ni-Fe-O nanosized powders. *Journal of Materials Research*, 19(4), 1011-1014.

Suematsu, H., Nishimura, S., Murai, K., Hayashi, Y., Suzuki, T., Nakayama, T., et al. (2007). Pulsed wire discharge apparatus for mass production of copper nanopowders. *Review of Scientific Instruments*, 78(5), 056105.

Suwa, K., Suzuki, T., Suematsu, H., Jiang, W., & Yatsui, K. (2005). Synthesis of Fe-N nanosized powders by pulsed wire discharge. *Japanese Journal of Applied Physics*, 44(1B), 745-749.

Suzuki, T., Keawchai, K., Jiang, W., & Yatsui, K. (2001). Nanosize Al<sub>2</sub>O<sub>3</sub> powder production by pulsed wire discharge. *Japanese Journal of Applied Physics*, 40(2B), 1073-1075.

Taylor, M. J. (2002). Formation of plasma around wire fragments created by electrically exploded copper wire. *Journal of Physics D: Applied Physics*, 35(7), 700-709.

Tepper, F., Lerner, M. I., & Ginley, D. S. (2004). Metallic nanopowders: An overview. In J. A. Schwarz, C. I. Contescu & K. Putyera (Eds.), *Dekker Encyclopedia of Nanoscience and Nanotechnology* (Vol. 3, pp. 1921-1933). New York: Marcel Dekker.

Tkachenko, S. I., Pikuz, S. A., Romanova, V. M., Ter-Oganesyan, A. E., Mingaleev, A. R., & Shelkovenko, T. A. (2007). Overvoltage pulse development upon electrical explosion of thin wires. *Journal of Physics D: Applied Physics*, 40(6), 1742-1750.

Tkachenko, S. I., Vorob'ev, V. S., & Malyshenko, S. P. (2004). The nucleation mechanism of wire explosion. *Journal of Physics D: Applied Physics*, 37(3), 495-500.

Tokoi, Y., Suzuki, T., Nakayama, T., Suematsu, H., Jiang, W., & Niihara, K. (2008). Synthesis of TiO<sub>2</sub> Nanosized Powder by Pulsed Wire Discharge. *Japanese Journal of Applied Physics*, 47(1), 760-763.

Tokoi, Y., Suzuki, T., Nakayama, T., Suematsu, H., Kaneko, F., & Niihara, K. (2009). Effect of energy deposition on TiO<sub>2</sub> nanosized powder synthesized by pulsed wire discharge. *Current Applied Physics*, 9(3 Suppl.), S193-S196.

- Tokoi, Y., Suzuki, T., Nakayama, T., Suematsu, H., Kaneko, F., & Niihara, K. (2010). Synthesis of Aluminum Nitride Nanopowder with Particle Size Less than 10 nm by Pulsed Wire Discharge in Nitrogen Gas. *Japanese Journal of Applied Physics*, 49(11), 116201.
- Tucker, T. J. (1961). Behavior of exploding gold wires. *Journal of Applied Physics*, 32(10), 1894-1900.
- Tucker, T. J., & Toth, R. P. (1975). *A computer code for the prediction of the behavior of electrical circuits containing exploding wire elements*. New Mexico: Sandia Laboratory.
- Uhm, Y. R., Park, J. H., Kim, W. W., Cho, C. H., & Rhee, C. K. (2004). Magnetic properties of nano-size Ni synthesized by the pulsed wire evaporation (PWE) method. *Materials Science and Engineering B*, 106(3), 224-227.
- Umakoshi, M., Yoshitomi, T., & Kato, A. (1995). Preparation of alumina and alumina-silica powders by wire explosion resulting from electric discharge. *Journal of Materials Science*, 30(5), 1240-1244.
- Vlastos, A. E. (1967). Current pause in exploding-wire discharges. *Journal of Applied Physics*, 38(13), 4993-4998.
- Vlastos, A. E. (1968). Restrike mechanisms of exploding wire discharges. *Journal of Applied Physics*, 39(7), 3081-3087.
- Vlastos, A. E. (1969). Restrike channel resistance of thin exploding wires. *Journal of Applied Physics*, 40(12), 4752-4760.
- Vlastos, A. E. (1973). Instabilities of electrically exploded wires. *Journal of Applied Physics*, 44(4), 1616-1621.
- Wang, Q., Yang, H., Shi, J., & Zou, G. (2001a). One-step synthesis of the nanometer particles of  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub> by wire electrical explosion method. *Materials Research Bulletin*, 36(3-4), 503-509.
- Wang, Q., Yang, H., Shi, J., & Zou, G. (2001b). Preparation and characterization of nanocrystalline powders of Cu-Zn alloy by wire electrical explosion method. *Materials Science and Engineering: A*, 307(1-2), 190-194.
- Yokoyama, T. (2007). Size effect and properties of nanoparticles. In M. Hosokawa, K. Nogi, M. Naito & T. Yokoyama (Eds.), *Nanoparticle technology handbook* (pp. 5-10). Amsterdam: Elsevier.