References

Agnew, S., Mehrotra, P., Lillo, T., Stoica, G. and Liaw, P. (2005). Crystallographic texture evolution of three wrought magnesium alloys during equal channel angular extrusion. *Materials Science and Engineering: A, 408*(1), 72-78.

Ajayan, P. M. and Marks, L. D. (1988). Quasimelting and phases of small particles. *Phys. Rev. Lett., 60*, 585.

Alexander, D. J. and Beyerlein, I. J. (2005). Anisotropy in mechanical properties of high-purity copper processed by equal channel angular extrusion. *Materials Science and Engineering: A, 410*, 480-484.

Antonione, C., Della Gatta, G., Riontino, G. and Venturello, G. (1973). Grain growth and secondary recrystallization in iron. *Journal of materials science, 8*(1), 1-10.

Azizi-Alizamini, H., Militzer, M.and Poole, W. (2007). A novel technique for developing bimodal grain size distributions in low carbon steels. *Scripta Materialia, 57*(12), 1065-1068.

Azushima, A. and Aoki, K. (2002). Properties of ultrafine-grained steel by repeated shear deformation of side extrusion process. *Materials Science and Engineering: A, 337*(1), 45-49.

Azushima, A., Kopp, R., Korhonen, A., Yang, D., Micari, F., Lahoti, G., . . . Rosochowski, A. (2008). Severe plastic deformation (SPD) processes for metals. *CIRP Annals-Manufacturing Technology, 57*(2), 716-735.

Baczynski, J. and Jonas, J. (1996). Texture development during the torsion testing of α-iron and two IF steels. *Acta Materialia, 44*(11), 4273-4288.

Baik, S. C., Estrin, Y., Hellmig, R. J., Jeong, H.-T., Brokmeier, H.-G. and Kim, H. S. (2003). Modeling of texture evolution in copper under equal channel angular pressing. *Zeitschrift für Metallkunde, 94*(11), 1189-1198.

Banerjee, K. (2012). *Physical Metallurgy and Drawability of Extra Deep Drawing and Interstitial Free Steels*: INTECH Open Access Publisher.

Banhart, F. (1999). Irradiation effects in carbon nanostructures. *Rep. Prog. Phys., 62*, 1181-1221.

Banhart, F., Hernandez, E. and Terrones, M. (2003). Extreme superheating and supercooling of encapsulated metals in fullerenelike shells. *Phys. Rev. Lett., 90*, 185502.

Barber, R., Dudo, T., Yasskin, P. and Hartwig, K. (2004). Product yield for ECAE processing. *Scripta Materialia, 51*(5), 373-377.

Barbosa, C., de Blas, G., Juan, C. and Pereira, L. C. (2009). A Survey on Technological Developments for Fabricating Nanostructured Metals and Alloys. *Recent Patents on Materials Science, 2*(3), 232-243.

Basavaraj, V. P., Chakkingal, U. and Kumar, T. P. (2009). Study of channel angle influence on material flow and strain inhomogeneity in equal channel angular pressing using 3D finite element simulation. *journal of materials processing technology, 209*(1), 89-95.

Bayraktar, E., Chevalier, J., Kaplan, D. and Devillers, L. (2009). PHYSICAL UNDERSTANDING OF FERRITE GRAIN GROWTH DURING WELDING IN INTERSTITIAL FREE STEELS (IFS). *Arabian Journal for Science and Engineering, 34*(1C), 116.

Beyerlein, I., Lebensohn, R. and Tome, C. (2003). Modeling texture and microstructural evolution in the equal channel angular extrusion process. *Materials Science and Engineering: A, 345*(1), 122-138.

Beyerlein, I. J., Alexander, D. J. and Tomé, C. N. (2007). Plastic anisotropy in aluminum and copper pre-strained by equal channel angular extrusion. *Journal of materials science, 42*(5), 1733-1750.

Beyerlein, I. J. and Tóth, L. S. (2009). Texture evolution in equal-channel angular extrusion. *Progress in Materials Science, 54*(4), 427-510.

Beyerlein*, I., Li, S., Necker, C., Alexander, D. and Tomé, C. (2005). Non-uniform microstructure and texture evolution during equal channel angular extrusion. *Philosophical Magazine, 85*(13), 1359-1394.

Beygelzimer, Y. and Orlov, D. (2002). *Metal plasticity during the Twist Extrusion.* Paper presented at the Defect and Diffusion Forum.

Beygelzimer, Y., Orlov, D., Korshunov, A., Synkov, S., Varyukhin, V., Vedernikova, I., . . . Korotchenkova, I. (2006). *Features of twist extrusion: method, structures and material properties.* Paper presented at the Solid State Phenomena.

Beygelzimer, Y., Varyukhin, V., Synkov, S., Sapronov, A. and Synkov, V. (1999). New schemes of large plastic deformations accumulating with using of hydroextrusion. *Phys. Technol. High Press, 9*(3), 109-111.

Bhowmik, A., Biswas, S., Suwas, S., Ray, R. and Bhattacharjee, D. (2009). Evolution of grain-boundary microstructure and texture in interstitial-free steel processed by equal-channel angular extrusion. *Metallurgical and Materials Transactions A, 40*(11), 2729-2742.

Bodin, A., Sietsma, J. and Van der Zwaag, S. (2001). On the nature of the bimodal grain size distribution after intercritical deformation of a carbon–manganese steel. *Materials characterization, 47*(3), 187-193.

Borbély, A., Driver, J. and Ungár, T. (2000). An X-ray method for the determination of stored energies in texture components of deformed metals; Application to cold worked ultra high purity iron. *Acta Materialia, 48*(8), 2005-2016.

Bowen, J. R., Gholinia, A., Roberts, S. and Prangnell, P. (2000). Analysis of the billet deformation behaviour in equal channel angular extrusion. *Materials Science and Engineering: A, 287*(1), 87-99.

Bridgman, P. (1943). On torsion combined with compression. *Journal of Applied Physics, 14*(6), 273-283.

Bunge, H.-J. (1965). Zur darstellung allgemeiner texturen. *Zeitschrift für Metallkunde, 56*(12), 872-and.

Bunge, H. (1982). Texture analysis in materialia science mathematical methods. *1ed. Butterworths*.

Callister, W. D. (2001). Fundamentals of materials science and engineering: an interactive e-text.

Cardoso, K., Travessa, D., Botta, W. and Jorge, A. (2011). High Strength AA7050 Al alloy processed by ECAP: Microstructure and mechanical properties. *Materials Science and Engineering: A, 528*(18), 5804-5811.

Cawthorn, R. G. (1996). *Layered intrusions*: Elsevier.

Celestini, F., Ercolessi, F. and Tosatti, E. (1997). Can liquid metal surfaces have hexatic order? *Phys. Rev. Lett., 78*, 3153.

Chang, C., Sun, P. and Kao, P. (2000). Deformation induced grain boundaries in commercially pure aluminium. *Acta Materialia, 48*(13), 3377-3385.

Chen, Q., Ngan, A. and Duggan, B. (2003). *Microstructure evolution in an interstitial-free steel during cold rolling at low strain levels.* Paper presented at the Proceedings of the Royal Society of London A: Mathematical, Physical and Engineering Sciences.

Chen, X. and Lu, L. (2007). Work hardening of ultrafine-grained copper with nanoscale twins. *Scripta Materialia, 57*(2), 133-136.

Choi, J.-S., Jin, Y.-G., Lee, H.-C. and Im, Y.-T. (2011). High Strength Bolt Manufacturing of Ultra-Fine Grained Aluminium Alloy 6061. *Materials Transactions, 52*(2), 173-178.

Cleveland, C. L. (1997). Structural evolution of smaller gold nanocrystals: The truncated decahedral motif. *Phys. Rev. Lett., 79*, 1873.

Culity, B. and Stock, S. (1978). Elements of X-ray Diffraction. *Reading: Addition-Wesley*.

De Barros Costa, L. G., Moreira, L. P. and De Medeiros, N. (2013). Evaluation Of The Backpressure Effect On The Plastic Strain Homogeneity During The Deformation of The Al 6070 Alloy via Ecap Technique.

De Messemaeker, J., Verlinden, B. and Van Humbeeck, J. (2005). Texture of IF steel after equal channel angular pressing (ECAP). *Acta Materialia, 53*(15), 4245-4257.

DeArdo, A. J. (1995). Multi-phase microstures and their properties in high strength low carbon steels. *ISIJ international, 35*(8), 946-954.

Delincé, M., Bréchet, Y., Embury, J. D., Geers, M., Jacques, P. and Pardoen, T. (2007). Structure–property optimization of ultrafine-grained dual-phase steels using a microstructure-based strain hardening model. *Acta Materialia, 55*(7), 2337-2350.

Dieter, G. E. and Bacon, D. (1986). *Mechanical metallurgy* (Vol. 3): McGraw-Hill New York.

Djavanroodi, F. and Ebrahimi, M. (2010). Effect of die channel angle, friction and back pressure in the equal channel angular pressing using 3D finite element simulation. *Materials Science and Engineering: A, 527*(4), 1230-1235.

Djavanroodi, F., Omranpour, B., Ebrahimi, M. and Sedighi, M. (2012). Designing of ECAP parameters based on strain distribution uniformity. *Progress in Natural Science: Materials International, 22*(5), 452-460.

Egry, I., Lohoefer, G. and Jacobs, G. (1995). Surface tension of liquid metals: Results from measurements on ground and in space. *Phys. Rev. Lett., 75*, 4043.

Emren, F., Von Schlippenbach, U. and Lücke, K. (1986). Investigation of the development of the recrystallization textures in deep drawing steels by ODF analysis. *Acta Metallurgica, 34*(11), 2105-2117.

Engler, O. and Randle, V. (2009). *Introduction to texture analysis: macrotexture, microtexture and orientation mapping*: CRC press.

Estrin, Y., Molotnikov, A., Davies, C. and Lapovok, R. (2008). Strain gradient plasticity modelling of high-pressure torsion. *Journal of the Mechanics and Physics of Solids, 56*(4), 1186-1202.

Estrin, Y., Rabkin, E., Hellmig, R., Kazakevich, M. and Zi, A. (2005). Severe plastic deformation by solid state infiltration. *Materials Science and Engineering: A, 410*, 165-168.

Estrin, Y. and Vinogradov, A. (2013). Extreme grain refinement by severe plastic deformation: a wealth of challenging science. *Acta Materialia, 61*(3), 782-817.

Every, R. and Hatherly, M. (1974). *Oriented nucleation in low-carbon steels.* Paper presented at the Texture.

Faulkner, E. (1960). Calculation of stored energy from broadening of X-ray diffraction lines. *Philosophical Magazine, 5*(53), 519-521.

Feng, Y., Geng, L., Zheng, P., Zheng, Z. and Wang, G. (2008). Fabrication and characteristic of Al-based hybrid composite reinforced with tungsten oxide particle and aluminum borate whisker by squeeze casting. *Materials and Design, 29*(10), 2023-2026.

Ferrasse, S., Segal, V., Kalidindi, S. and Alford, F. (2004). Texture evolution during equal channel angular extrusion: Part I. Effect of route, number of passes and initial texture. *Materials Science and Engineering: A, 368*(1), 28-40.

Frenken, J. W. M. and van der Veen, J. F. (1985). Observation of surface melting. *Phys. Rev. Lett., 54*, 134.

Fukuda, Y., Oh-Ishi, K., Horita, Z. and Langdon, T. (2002). Processing of a low-carbon steel by equal-channel angular pressing. *Acta Materialia, 50*(6), 1359-1368.

Furukawa, M., Iwahashi, Y., Horita, Z., Nemoto, M. and Langdon, T. G. (1998). The shearing characteristics associated with equal-channel angular pressing. *Materials Science and Engineering: A, 257*(2), 328-332.

Furuno, K., Akamatsu, H., Oh-ishi, K., Furukawa, M., Horita, Z. and Langdon, T. G. (2004). Microstructural development in equal-channel angular pressing using a 60 die. *Acta Materialia, 52*(9), 2497-2507.

Gao, Y. and Bando, Y. (2002). Carbon nanothermometer containing gallium. *Nature, 415*, 599.

Gazder, A. A., Cao, W., Davies, C. H. and Pereloma, E. V. (2008). An EBSD investigation of interstitial-free steel subjected to equal channel angular extrusion. *Materials Science and Engineering: A, 497*(1), 341-352.

Gazder, A. A., Dalla Torre, F., Gu, C., Davies, C. H. and Pereloma, E. (2006). Microstructure and texture evolution of bcc and fcc metals subjected to equal channel angular extrusion. *Materials Science and Engineering: A, 415*(1), 126-139.

Gazder, A. A., Hazra, S. S. and Pereloma, E. V. (2011). Annealing behaviour and mechanical properties of severely deformed interstitial free steel. *Materials Science and Engineering: A, 530*, 492-503.

Geist, D., Rentenberger, C. and Karnthaler, H. (2011). Extreme structural inhomogeneities in high-pressure torsion samples along the axial direction. *Acta Materialia, 59*(11), 4578-4586.

Gholinia, A., Prangnell, P. and Markushev, M. (2000). The effect of strain path on the development of deformation structures in severely deformed aluminium alloys processed by ECAE. *Acta Materialia, 48*(5), 1115-1130.

Gladman, T. (1966). *On the theory of the effect of precipitate particles on grain growth in metals.* Paper presented at the Proceedings of the Royal Society of London A: Mathematical, Physical and Engineering Sciences.

Gopi, B., Krishna, N. N., Venkateswarlu, K. and Sivaprasad, K. (2012). Influence of rolling temperature on microstructure and mechanical properties of cryorolled Al-Mg-Si alloy. *World Acad. Sci., Eng. Technol, 61*, 731-735.

Gopi, B., Naga Krishna, N., Sivaprasad, K. and Venkateswarlu, K. (2012). *Effect of Rolling Temperature on Microstructure and Mechanical Properties of Cryorolled Al-Mg-Si Alloy Reinforced with 3wt% TiB2 In Situ Composite.* Paper presented at the Advanced Materials Research.

Greer, J. R., Oliver, W. C. and Nix, W. D. (2005). Size dependence of mechanical properties of gold at the micron scale in the absence of strain gradients. *Acta Materialia, 53*(6), 1821-1830.

Gupta, K. (2014). *Engineering Materials: Research, Applications and Advances*: CRC Press.

Hadzima, B., Janeček, M., Estrin, Y. and Kim, H. S. (2007). Microstructure and corrosion properties of ultrafine-grained interstitial free steel. *Materials Science and Engineering: A, 462*(1), 243-247.

Han, B. Q., Mohamed, F. A. and Lavernia, E. J. (2003). Mechanical properties of iron processed by severe plastic deformation. *Metallurgical and Materials Transactions A, 34*(1), 71-83.

Hansen, N. (2001). Microstructural evolution during forming of metals. *材料科学技术学报: **英文版**, 17*(4), 409-412.

Hansen, N., Huang, X. and Kamikawa, N. (2009). Structure and Strength of IF Steel After Large Strain Deformation *Microstructure and Texture in Steels* (pp. 33-42): Springer.

Hasegawa, T., Yakou, T. and Karashima, S. (1975). Deformation behaviour and dislocation structures upon stress reversal in polycrystalline aluminium. *Materials Science and Engineering, 20*, 267-276.

Hashmi, S. (2014). *Comprehensive Materials Processing*: Newnes.

Hasnaoui, A., Van Swygenhoven, H. and Derlet, P. (2002). On non-equilibrium grain boundaries and their effect on thermal and mechanical behaviour: a molecular dynamics computer simulation. *Acta Materialia, 50*(15), 3927-3939.

Hatherley, M. and Hutchinson, W. (1979). *An introduction to textures in metals*: Institution of Metallurgists.

Hausöl, T., Maier, V., Schmidt, C. W., Winkler, M., Höppel, H. W. and Göken, M. (2010). Tailoring materials properties by accumulative roll bonding. *Advanced Engineering Materials, 12*(8), 740-746.

Hazra, S. S., Gazder, A. A., Carman, A. and Pereloma, E. V. (2011). Effect of Cold Rolling on as–ECAP Interstitial Free Steel. *Metallurgical and Materials Transactions A, 42*(5), 1334-1348.

Hazra, S. S., Gazder, A. A. and Pereloma, E. V. (2009). Stored energy of a severely deformed interstitial free steel. *Materials Science and Engineering: A, 524*(1), 158-167.

Hazra, S. S., Pereloma, E. V. and Gazder, A. A. (2011). Microstructure and mechanical properties after annealing of equal-channel angular pressed interstitial-free steel. *Acta Materialia, 59*(10), 4015-4029.

He, P. (2013). *On the structure-property correlation and the evolution of Nanofeatures in 12-13.5% Cr oxide dispersion strengthened ferritic steels* (Vol. 31): KIT Scientific Publishing.

Heggen, M., Houben, L. and Feuerbacher, M. (2010). Plastic-deformation mechanism in complex solids. *Nature materials, 9*(4), 332-336.

Higuera, O. F. and Cabrera, J. (2013). Texture analysis in ultrafine grained coppers processed by equal channel angular pressing. *Materials Research, 16*(3), 619-624.

Hillert, M. (1965). On the theory of normal and abnormal grain growth. *Acta Metallurgica, 13*(3), 227-238.

Hodgson, P., Hickson, M. and Gibbs, R. (1999). Ultrafine ferrite in low carbon steel. *Scripta Materialia, 40*(10), 1179-1184.

Hodowany, J., Ravichandran, G., Rosakis, A. and Rosakis, P. (2000). Partition of plastic work into heat and stored energy in metals. *Experimental mechanics, 40*(2), 113-123.

Hoile, S. (2000). Processing and properties of mild interstitial free steels. *Materials science and technology, 16*(10), 1079-1093.

Holm, E. A., Miodownik, M. A. and Rollett, A. D. (2003). On abnormal subgrain growth and the origin of recrystallization nuclei. *Acta Materialia, 51*(9), 2701-2716.

Hook, R. and Nyo, H. (1975). Recrystallization of deep drawing columbium (Nb)-treated interstitial-free sheet steels. *Metallurgical Transactions A, 6*(7), 1443-1451.

Horita, Z. and Langdon, T. G. (2005). Microstructures and microhardness of an aluminum alloy and pure copper after processing by high-pressure torsion. *Materials Science and Engineering: A, 410*, 422-425.

Hu, H. (1974). *Texture of metals.* Paper presented at the Texture.

Hua, M., Garcia, C. and Ardo, A. (1995). Precipitation behaviour in Ti-only, Ti+ Nb dual stabilized and Nb-only ultra-low carbon interstitial-free steels. *Phase Transformations During the Thermal/Mechanical Processing of Steel*, 285-290.

Hua, M., Garcia, C. and DeArdo, A. (1993). Multi-phase precipitates in interstitial-free steels. *Scripta metallurgica et materialia, 28*(8), 973-978.

Huang, X., Hansen, N. and Tsuji, N. (2006). Hardening by annealing and softening by deformation in nanostructured metals. *Science, 312*(5771), 249-251.

Hughes, D. (2001). Microstructure evolution, slip patterns and flow stress. *Materials Science and Engineering: A, 319*, 46-54.

Humphrey, F. (1997). A unified theory of recovery, recrystallization and grain growth, based on the stability and growth of cellular microstructures-1. The basic model. *Acta Materialia, 45*(10), 4231-4240.

Hutchinson, B. (1999). Deformation microstructures and textures in steels. *Philosophical Transactions of the Royal Society of London A: Mathematical, Physical and Engineering Sciences, 357*(1756), 1471-1485.

Hwang, S. K., Baek, H. M., Joo, H. S. and Im, Y.-T. (2015). Effect of processing routes in a multi-pass continuous hybrid process on mechanical properties, microstructure and texture evolutions of low-carbon steel wires. *Metals and Materials International, 21*(2), 391-401.

Iida, T. and Guthrie, R. I. L. (1988). The Physical Properties of Liquid Metals.

Iwahashi, Y., Horita, Z., Nemoto, M. and Langdon, T. G. (1998). The process of grain refinement in equal-channel angular pressing. *Acta Materialia, 46*(9), 3317-3331.

Iwahashi, Y., Wang, J., Horita, Z., Nemoto, M. and Langdon, T. G. (1996). Principle of equal-channel angular pressing for the processing of ultra-fine grained materials. *Scripta Materialia, 35*(2), 143-146.

Jamaati, R., Toroghinejad, M. R., Amirkhanlou, S. and Edris, H. (2015). On the Achievement of Nanostructured Interstitial Free Steel by Four-Layer Accumulative Roll Bonding Process at Room Temperature. *Metallurgical and Materials Transactions A, 46*(9), 4013-4019.

Janeček, M., Krajňák, T., Stráská, J., Čížek, J., Lee, D., Kim, H. and Gubicza, J. (2014). *Microstructure evolution in ultrafine-grained interstitial free steel processed by high pressure torsion.* Paper presented at the IOP Conference Series: Materials Science and Engineering.

Jin, M., Minor, A., Stach, E. and Morris, J. (2004). Direct observation of deformation-induced grain growth during the nanoindentation of ultrafine-grained Al at room temperature. *Acta Materialia, 52*(18), 5381-5387.

Jin, Y., Huh, M. and Chung, Y. H. (2004). Evolution of textures and microstructures in IF-steel sheets during continuous confined strip shearing and subsequent recrystallization annealing. *Journal of materials science, 39*(16-17), 5311-5314.

Joo, S.-H., Yoon, S. C., Lee, C. S., Nam, D. H., Hong, S. H. and Kim, H. S. (2010). Microstructure and tensile behavior of Al and Al-matrix carbon nanotube composites processed by high pressure torsion of the powders. *Journal of materials science, 45*(17), 4652-4658.

Kaibyshev, O., Safiullin, R., Lutfullin, R. Y., Valiakhmetov, O., Galeyev, R., Dutta, A., . . . Saha, G. (2006). Advanced superplastic forming and diffusion bonding of titanium alloy. *Materials science and technology, 22*(3), 343-348.

Kawasaki, M. and Langdon, T. G. (2014). Review: achieving superplasticity in metals processed by high-pressure torsion. *Journal of materials science, 49*(19), 6487-6496.

Kim, H. S., Quang, P., Seo, M. H., Hong, S. I., Baik, K. H., Lee, H. R. and Nghiep, D. M. (2004). Process modelling of equal channel angular pressing for ultrafine grained materials. *Materials Transactions, 45*(7), 2172-2176.

Kim, H. S., Ryu, W. S., Janecek, M., Baik, S. C. and Estrin, Y. (2005). Effect of equal channel angular pressing on microstructure and mechanical properties of IF steel. *Advanced Engineering Materials, 7*(1-2), 43-46.

Kishimoto, Y., Yamaguchi, K., Sakuraya, T. and Fujii, T. (1993). Decarburization Reaction in Ultra-low Carbon Iron Melt under Reduced Pressure. *ISIJ international, 33*(3), 391-399.

Klöden, B., Oertel, C.-G., Skrotzki, W. and Rybacki, E. (2009). Texture Formation and Swift Effect in High Strain Torsion of NiAl. *Journal of Engineering Materials and Technology, 131*(1), 011102.

Klug, H. P. and Alexander, L. E. (1954). X-ray diffraction procedures.

Köhler, U. and Bunge, H. (1995). Model Calculations of the Recrystallization Texture Formatio in α-Iron. *Texture, Stress and Microstructure, 23*(2), 87-114.

Kor, G. and Glaws, P. (1998). Ladle refining and vacuum degassing. *Making, Shaping and Treating of Steel-Steelmaking and Refining Volume*, 661-713.

Kostorz, G., Calderon, H. and Martin, J. (2013). *Fundamental Aspects of Dislocation Interactions: Low-energy Dislocation Structures III*: Elsevier.

Krajňák, T. and Máthis, K. (2013). Evolution of microstructure and mechanical properties of ultra-fine-grained IF steel processed by equal channel angular pressing. *Materials Engineering-Materiálové inžinierstvo (MEMI), 20*(2), 71-76.

KRAUS, L., ZRNIK, J., FUJDA, M. and Cieslarc, M. GRAIN REFINEMENT OF LOW CARBON STEEL BY ECAP SEVERE PLASTIC DEFORMATION.

Kuroda, M., Uenishi, A., Yoshida, H. and Igarashi, A. (2006). Ductility of interstitial-free steel under high strain rate tension: Experiments and macroscopic modeling with a physically-based consideration. *International journal of solids and structures, 43*(14), 4465-4483.

Langdon, T. G. (2013). Twenty-five years of ultrafine-grained materials: achieving exceptional properties through grain refinement. *Acta Materialia, 61*(19), 7035-7059.

Lapovok, R. Y. (2005). The role of back-pressure in equal channel angular extrusion. *Journal of materials science, 40*(2), 341-346.

Lee, S.-H., Sakai, T., Saito, Y., Utsunomiya, H. and Tsuji, N. (1999). Strengthening of sheath-rolled aluminum based MMC by the ARB process. *Materials Transactions, JIM, 40*(12), 1422-1428.

Lee, S.-H., Utsunomiya, H. and Sakai, T. (2004). Microstructures and mechanical properties of ultra low carbon interstitial free steel severely deformed by a multi-stack accumulative roll bonding process. *Materials Transactions, 45*(7), 2177-2181.

Li, S. and Beyerlein, I. J. (2005). Modelling texture evolution in equal channel angular extrusion of bcc materials: effects of processing route and initial texture. *Modelling and Simulation in Materials Science and Engineering, 13*(4), 509.

Li, S., Beyerlein, I. J., Alexander, D. J. and Vogel, S. C. (2005a). Texture evolution during equal channel angular extrusion: effect of initial texture from experiment and simulation. *Scripta Materialia, 52*(11), 1099-1104.

Li, S., Beyerlein, I. J., Alexander, D. J. and Vogel, S. C. (2005b). Texture evolution during multi-pass equal channel angular extrusion of copper: neutron diffraction characterization and polycrystal modeling. *Acta Materialia, 53*(7), 2111-2125.

Li, S., Beyerlein, I. J. and Bourke, M. A. (2005). Texture formation during equal channel angular extrusion of fcc and bcc materials: comparison with simple shear. *Materials Science and Engineering: A, 394*(1), 66-77.

Li, S., Gazder, A. A., Beyerlein, I. J., Davies, C. H. and Pereloma, E. V. (2007). Microstructure and texture evolution during equal channel angular extrusion of interstitial-free steel: Effects of die angle and processing route. *Acta Materialia, 55*(3), 1017-1032.

Li, S., Gazder, A. A., Beyerlein, I. J., Pereloma, E. V. and Davies, C. H. (2006). Effect of processing route on microstructure and texture development in equal channel angular extrusion of interstitial-free steel. *Acta Materialia, 54*(4), 1087-1100.

Litwinski, E. and Toosky, R. F. (2005). Method of manufacturing rivets having high strength and formability: Google Patents.

Lowe, T. C. (2006). *Outlook for manufacturing materials by severe plastic deformation.* Paper presented at the Materials Science Forum.

Lu, K., Lu, L. and Suresh, S. (2009). Strengthening materials by engineering coherent internal boundaries at the nanoscale. *Science, 324*(5925), 349-352.

Ma, A., Suzuki, K., Nishida, Y., Saito, N., Shigematsu, I., Takagi, M., . . . Imura, T. (2005). Impact toughness of an ultrafine-grained Al–11mass% Si alloy processed by rotary-die equal-channel angular pressing. *Acta Materialia, 53*(1), 211-220.

Ma, A., Suzuki, K., Saito, N., Nishida, Y., Takagi, M., Shigematsu, I. and Iwata, H. (2005). Impact toughness of an ingot hypereutectic Al–23mass% Si alloy improved by rotary-die equal-channel angular pressing. *Materials Science and Engineering: A, 399*(1), 181-189.

Ma, E., Wang, Y., Lu, Q., Sui, M., Lu, L. and Lu, K. (2004). Strain hardening and large tensile elongation in ultrahigh-strength nano-twinned copper. *Applied Physics Letters, 85*(21), 4932-4934.

Magnusson, H., Jensen, D. J. and Hutchinsson, B. (2001). Growth rates for different texture components during recrystallization of IF steel. *Scripta Materialia, 44*(3), 435-441.

Manna, R., Mukhopadhyay, N. and Sastry, G. (2008). Effect of equal channel angular pressing on microstructure and mechanical properties of commercial purity aluminum. *Metallurgical and Materials Transactions A, 39*(7), 1525-1534.

Manna, R., Mukhopadhyay, N. and Sastry, G. (2012). *Grain Refinement Mechanisms Oterative during Equal Channel Angular Pressing of Aluminium.* Paper presented at the Materials Science Forum.

Manna, R., Mukhopadhyay, N. and Sastry, G. (2012). *Strengthening Behavior of Bulk Ultra Fine Grained Aluminum Alloys.* Paper presented at the Materials Science Forum.

Máthis, K., Krajňák, T., Kužel, R. and Gubicza, J. (2011). Structure and mechanical behaviour of interstitial-free steel processed by equal-channel angular pressing. *Journal of Alloys and Compounds, 509*(8), 3522-3525.

Medeiros, N., Lins, J., Moreira, L. and Gouvêa, J. (2008). The role of the friction during the equal channel angular pressing of an IF-steel billet. *Materials Science and Engineering: A, 489*(1), 363-372.

Meister, A., Liley, M., Brugger, J., Pugin, R. and Heinzelmann, H. (2004). Nanodispenser for attoliter volume deposition using atomic force microscopy probes modified by focused-ion-beam milling. *Appl. Phys. Lett., 85,* 6260-6262.

Miller, T., Jimenez, J., Sharan, A. and Goldstein, D. (1998). Oxygen steelmaking processes. *The Making, Shaping and Treating of Steel-Steelmaking and Refining volume*, 475-524.

Miura, H., Nakamura, W. and Kobayashi, M. (2014). Room-temperature Multi-directional Forging of AZ80Mg Alloy to Induce Ultrafine Grained Structure and Specific Mechanical Properties. *Procedia Engineering, 81*, 534-539.

Molinari, A. and Tóth, L. (1994). Tuning a self consistent viscoplastic model by finite element results—I. Modeling. *Acta metallurgica et materialia, 42*(7), 2453-2458.

Moseler, M. and Landman, U. (2000). Formation, stability and breakup of nanojets. *Science, 289*, 1165.

Muley, A. V., Aravindan, S. and Singh, I. (2015). Nano and hybrid aluminum based metal matrix composites: an overview. *Manufacturing Review, 2*, 15.

Nakashima, K., Horita, Z., Nemoto, M. and Langdon, T. G. (2000). Development of a multi-pass facility for equal-channel angular pressing to high total strains. *Materials Science and Engineering: A, 281*(1), 82-87.

Nam, H. S., Hwang, N. M., Yu, B. D. and Yoon, J. K. (2002). Formation of an icosahedral structure during the freezing of gold nanoclusters: Surface-induced mechanism. *Phys. Rev. Lett., 89*, 275502.

Nazarov, A., Romanov, A. and Valiev, R. (1993). On the structure, stress fields and energy of nonequilibrium grain boundaries. *Acta metallurgica et materialia, 41*(4), 1033-1040.

Nejadseyfi, O., Shokuhfar, A. and Moodi, V. (2015). Segmentation of copper alloys processed by equal-channel angular pressing. *Transactions of Nonferrous Metals Society of China, 25*(8), 2571-2580.

Nilles P., Dauby P., Claes J., (1979) Physical Chemistry of Top and Bottom Blowing, Basic Oxygen Steel making, The Metals Society, London, 60-72.

Newbery, A. P., Nutt, S. R. and Lavernia, E. J. (2006). Multi-scale Al 5083 for military vehicles with improved performance. *Jom, 58*(4), 56-61.

Oh, S. and Kang, S. (2003). Analysis of the billet deformation during equal channel angular pressing. *Materials Science and Engineering: A, 343*(1), 107-115.

Orlov, D., Beygelzimer, Y., Synkov, S., Varyukhin, V., Tsuji, N. and Horita, Z. (2009). Plastic flow, structure and mechanical properties in pure Al deformed by twist extrusion. *Materials Science and Engineering: A, 519*(1), 105-111.

Oruganti, R., Subramanian, P., Marte, J., Gigliotti, M. F. and Amancherla, S. (2005). Effect of friction, backpressure and strain rate sensitivity on material flow during equal channel angular extrusion. *Materials Science and Engineering: A, 406*(1), 102-109.

Osman, T. M. and Garcia, C. I. (2001). Niobium-bearing interstitial-free steels: processing, structure and properties (pp. 699-725): Niobium.

Park, K.-T., Kim, Y.-S., Lee, J. G. and Shin, D. H. (2000). Thermal stability and mechanical properties of ultrafine grained low carbon steel. *Materials Science and Engineering: A, 293*(1), 165-172.

Pashinska, E., Varyukhin, V., Zavdoveev, A., Burkhovetskii, V. and Glazunova, V. (2012). Electron backscattered diffraction method in the analysis of deformed steel structures. *arXiv preprint arXiv:1205.2232*.

Pereloma, E. V., Gazder, A. A. and Davies, C. H. (2005). *Texture development in interstitial free (IF) steel subjected to two cycles of equal channel angular extrusion.* Paper presented at the Materials Science Forum.

Prangnell, P., Bowen, J. R. and Apps, P. (2004). Ultra-fine grain structures in aluminium alloys by severe deformation processing. *Materials Science and Engineering: A, 375*, 178-185.

Predel, B. (1998). Crystallographic and Thermodynamic Data of Binary Alloys[mdash]Electronic Materials and Semiconductors.

Purcek, G., Saray, O., Karaman, I. and Maier, H. J. (2012). High strength and high ductility of ultrafine-grained, interstitial-free steel produced by ECAE and annealing. *Metallurgical and Materials Transactions A, 43*(6), 1884-1894.

Purcek, G., Saray, O., Nagimov, M., Nazarov, A., Safarov, I., Danilenko, V., . . . Mulyukov, R. (2012). Microstructure and mechanical behavior of UFG copper processed by ECAP following different processing regimes. *Philosophical Magazine, 92*(6), 690-704.

Pushin, V., Gunderov, D., Kourov, N., Yurchenko, L., Prokofiev, E., Stolyarov, V., . . . Valiev, R. (2004). Ultrafine grained materials III. *TMS, Charlotte, 481*.

Raab, G. (2005). Plastic flow at equal channel angular processing in parallel channels. *Materials Science and Engineering: A, 410*, 230-233.

Raab, G. J., Valiev, R. Z., Lowe, T. C. and Zhu, Y. T. (2004). Continuous processing of ultrafine grained Al by ECAP–Conform. *Materials Science and Engineering: A, 382*(1), 30-34.

Raghavan, V. (2006). *Physical metallurgy: principles and practice*: PHI Learning Pvt. Ltd.

Rajmohan, N., Hayakawa, Y., Szpunar, J. and Root, J. (1997). Neutron diffraction method for stored energy measurement in interstitial free steel. *Acta Materialia, 45*(6), 2485-2494.

Rauch, E. and Schmitt, J.-H. (1989). Dislocation substructures in mild steel deformed in simple shear. *Materials Science and Engineering: A, 113*, 441-448.

Rauch, E. F. (1992). *The flow law of mild steel under monotonic or complex strain path.* Paper presented at the Solid State Phenomena.

Ray, R., Jonas, J. J. and Hook, R. (1994). Cold rolling and annealing textures in low carbon and extra low carbon steels. *International materials reviews, 39*(4), 129-172.

Regan, M. J. (1995). Surface layering in liquid gallium: An x-ray reflectivity study. *Phys. Rev. Lett., 75*, 2498.

Reis, A. C. C. and Kestens, L. A. (2005). *Cross-sectional texture gradients in interstitial free steels processed by accumulated roll bonding.* Paper presented at the Solid State Phenomena.

Rice, S. A., Guidotti, D., Lemberg, H. L., Murphy, W. C. and Bloch, A. N. (1974). Advances in Chemical Physics XXVII.

Rollett, A., Humphreys, F., Rohrer, G. S. and Hatherly, M. (2004). *Recrystallization and related annealing phenomena*: Elsevier.

Rusin, N. (2006). Effect of ECAP routes on the specific features of the "end effect". *The Physics of Metals and Metallography, 102*(2), 226-232.

Sabirov, I., Murashkin, M. Y. and Valiev, R. (2013). Nanostructured aluminium alloys produced by severe plastic deformation: New horizons in development. *Materials Science and Engineering: A, 560*, 1-24.

Saito, Y., Utsunomiya, H., Tsuji, N. and Sakai, T. (1999). Novel ultra-high straining process for bulk materials—development of the accumulative roll-bonding (ARB) process. *Acta Materialia, 47*(2), 579-583.

Sakai, G., Nakamura, K., Horita, Z. and Langdon, T. G. (2005). Developing high-pressure torsion for use with bulk samples. *Materials Science and Engineering: A, 406*(1), 268-273.

Salishchev, G., Galeev, R. and Valiakhmetov, O. (2000). Highly superplastic Ti-6Al-4V sheet. *Materials Technology and Advanced Performance Materials. Mater. Techn. and Adv. Perf. Mater, 15*(2), 133-135.

Salishchev, G., Zaripova, R., Galeev, R. and Valiakhmetov, O. (1995). Nanocrystalline structure formation during severe plastic deformation in metals and their deformation behaviour. *Nanostructured Materials, 6*(5), 913-916.

Saray, O., Purcek, G. and Karaman, I. (2010). Principles of equal-channel angular sheet extrusion (ECASE): application to IF-steel sheets. *Rev. Adv. Mater. Sci, 25*, 42-51.

Saray, O., Purcek, G., Karaman, I. and Maier, H. J. (2012). Impact Toughness of Ultrafine-Grained Interstitial-Free Steel. *Metallurgical and Materials Transactions A, 43*(11), 4320-4330.

Saray, O., Purcek, G., Karaman, I. and Maier, H. J. (2013). Formability of ultrafine-grained interstitial-free steels. *Metallurgical and Materials Transactions A, 44*(9), 4194-4206.

Saray, O., Purcek, G., Karaman, I., Neindorf, T. and Maier, H. (2011). Equal-channel angular sheet extrusion of interstitial-free (IF) steel: Microstructural evolution and mechanical properties. *Materials Science and Engineering: A, 528*(21), 6573-6583.

Sauvage, X., Wilde, G., Divinski, S., Horita, Z. and Valiev, R. (2012). Grain boundaries in ultrafine grained materials processed by severe plastic deformation and related phenomena. *Materials Science and Engineering: A, 540*, 1-12.

Schmelzer, J. W., Zanotto, E. D. and Fokin, V. M. (2005). Pressure dependence of viscosity. *J. Chem. Phys., 122*, 074511.

Segal, V. (1977). The method of material preparation for subsequent working. *Patent of the USSR*(575892).

Segal, V. (1999). Equal channel angular extrusion: from macromechanics to structure formation. *Materials Science and Engineering: A, 271*(1), 322-333.

Segal, V., Goforth, R. E. and Hartwig, K. T. (1995). Apparatus and method for deformation processing of metals, ceramics, plastics and other materials: Google Patents.

Segal, V., Hartwig, K. and Goforth, R. (1997). In situ composites processed by simple shear. *Materials Science and Engineering: A, 224*(1), 107-115.

Segal, V., Reznikov, V., Drobyshevskii, A. and Kopylov, V. (1981). Plastic working of metals by simple shear. *Russ. Met.*(1), 99-105.

Semiatin, S. and DeLo, D. (2000). Equal channel angular extrusion of difficult-to-work alloys. *Materials and Design, 21*(4), 311-322.

Semiatin, S., Delo, D. and Shell, E. (2000). The effect of material properties and tooling design on deformation and fracture during equal channel angular extrusion. *Acta Materialia, 48*(8), 1841-1851.

Semiatin, S. L. and DeLo, D. P. (1999). Equal channel angular extrusion of difficult-to-work alloys: Google Patents.

Shpyrko, O. G. (2005). Atomic-scale surface demixing in a eutectic liquid BiSn alloy. *Phys. Rev. Lett., 95*, 106103.

Shpyrko, O. G. (2006). Surface crystallization in a liquid AuSi alloy. *Science, 313*, 77-80.

Soleymani, V. and Eghbali, B. (2012). Grain Refinement in a Low Carbon Steel Through Multidirectional Forging. *Journal of Iron and Steel Research, International, 19*(10), 74-78.

Song, R., Ponge, D., Raabe, D., Speer, J. and Matlock, D. (2006). Overview of processing, microstructure and mechanical properties of ultrafine grained bcc steels. *Materials Science and Engineering: A, 441*(1), 1-17.

Song, Y., Wang, W., Gao, D., Kim, H.-S., Yoon, E.-Y., Lee, D.-J., . . . Guo, J. (2012). Inhomogeneous hardness distribution of high pressure torsion processed IF steel disks. *Materials Sciences and Applications, 3*(04), 234.

Song, Y., Wang, W., Gao, D., Yoon, E. Y., Lee, D. J., Lee, C. S. and Kim, H. S. (2013). Hardness and microstructure of interstitial free steels in the early stage of high-pressure torsion. *Journal of materials science, 48*(13), 4698-4704.

Srinivasan, R., Cherukuri, B. and Chaudhury, P. K. (2006). *Scaling up of equal channel angular pressing (ECAP) for the production of forging stock.* Paper presented at the Materials Science Forum.

Stibitz, G. (1937). Energy and Lattice Spacing in Strained Solids. *Phys. Rev, 52*, 619.

Stouvenot F., Chatelain F., Huhin D., (1998). Kinetics of Decarburization of ULC Steels in Vacuum Tank Degasser at Sollac Florange, proc. 39th Mechanical Working and Steel Processing Conference, (Iron and Steel Society. Warrendale, PA, 283-288.

Sun, L. (2006). Carbon nanotubes as high-pressure cylinders and nanoextruders. *Science, 312*, 1199-1202.

Sun, P.-L., Zhao, Y., Cooley, J., Kassner, M., Horita, Z., Langdon, T., . . . Zhu, Y. (2009). Effect of stacking fault energy on strength and ductility of nanostructured alloys: An evaluation with minimum solution hardening. *Materials Science and Engineering: A, 525*(1), 83-86.

Sutter, E. and Sutter, P. (2006). Au-induced encapsulation of Ge nanowires in protective carbon shells. *Adv. Mater., 18*, 2583.

Sutter, E., Sutter, P. and Zhu, Y. (2005). Assembly and interaction of Au/C core-shell nanostructures: In situ observation in the transmission electron microscope. *Nano Lett., 5*, 2092-2096.

Suwas, S. and Gurao, N. P. (2012). Crystallographic texture in Materials. *Journal of the Indian Institute of Science, 88*(2), 151-177.

Takahashi, M., Matsumoto, H. and Saito, T. (1995). Mechanism of decarburization in RH degasser. *ISIJ international, 35*(12), 1452-1458.

Tamimi, S., Ketabchi, M., Parvin, N., Sanjari, M. and Lopes, A. (2014). Accumulative Roll Bonding of pure copper and IF steel. *International Journal of Metals, 2014*.

Tither, G., Garcia, C., Hua, M. and DeArdo, A. (1994). Precipitation behavior and solute effects in interstitial-free steels. *Physical metallurgy of IF steels*, 293-322.

Toroghinejad, M. and Dini, G. (2006). Effect of Ti-microalloy addition on the formability and mechanical properties of a low carbon (ST14) steel. *International Journal of ISSI, 3*(2), 1-6.

Torrents, A., Yang, H. and Mohamed, F. A. (2010). Effect of annealing on hardness and the modulus of elasticity in bulk nanocrystalline nickel. *Metallurgical and Materials Transactions A, 41*(3), 621-630.

Tóth, L. S., Massion, R. A., Germain, L., Baik, S. C. and Suwas, S. (2004). Analysis of texture evolution in equal channel angular extrusion of copper using a new flow field. *Acta Materialia, 52*(7), 1885-1898.

Tsuji, N., Ito, Y., Saito, Y. and Minamino, Y. (2002). Strength and ductility of ultrafine grained aluminum and iron produced by ARB and annealing. *Scripta Materialia, 47*(12), 893-899.

Tsuji, N., Saito, Y., Utsunomiya, H. and Tanigawa, S. (1999). Ultra-fine grained bulk steel produced by accumulative roll-bonding (ARB) process. *Scripta Materialia, 40*(7), 795-800.

Turkdogan, E. and Fruehan, R. (1998). Fundamentals of iron and steelmaking. *The Making, Shaping and Treating of Steel*, 123-126.

Turnbull, D. and Cech, R. E. (1950). Microscopic observation of the solidification of small metal droplets. *J. Appl. Phys., 21*, 804.

Valiev, R. (1996). *Ultrafine-grained materials produced by severe plastic deformation: an introduction.* Paper presented at the Annales de Chimie, Science des Materiaux(France).

Valiev, R. (2006). *Some new trends in SPD Processing for fabrication of bulk nanostructured materials.* Paper presented at the Materials Science Forum.

Valiev, R. (2008). *On grain boundary engineering of UFG metals and alloys for enhancing their properties.* Paper presented at the Materials Science Forum.

Valiev, R., Alexandrov, I., Zhu, Y. and Lowe, T. (2002). Paradox of strength and ductility in metals processed bysevere plastic deformation. *Journal of Materials Research, 17*(01), 5-8.

Valiev, R., Ivanisenko, Y. V., Rauch, E. and Baudelet, B. (1996). Structure and deformaton behaviour of Armco iron subjected to severe plastic deformation. *Acta Materialia, 44*(12), 4705-4712.

Valiev, R., Korznikov, A. and Mulyukov, R. (1993). Structure and properties of ultrafine-grained materials produced by severe plastic deformation. *Materials Science and Engineering: A, 168*(2), 141-148.

Valiev, R. Z. (2013). Nanostructured alloys: large tensile elongation. *Nature materials, 12*(4), 289-291.

Valiev, R. Z., Estrin, Y., Horita, Z., Langdon, T. G., Zechetbauer, M. J. and Zhu, Y. T. (2006). Producing bulk ultrafine-grained materials by severe plastic deformation. *Jom, 58*(4), 33-39.

Valiev, R. Z., Islamgaliev, R. K. and Alexandrov, I. V. (2000). Bulk nanostructured materials from severe plastic deformation. *Progress in Materials Science, 45*(2), 103-189.

Valiev, R. Z. and Langdon, T. G. (2006). Principles of equal-channel angular pressing as a processing tool for grain refinement. *Progress in Materials Science, 51*(7), 881-981.

Valiev, R. Z. and Langdon, T. G. (2010). The art and science of tailoring materials by nanostructuring for advanced properties using SPD techniques. *Advanced Engineering Materials, 12*(8), 677-691.

Valiev, R. Z., Sabirov, I., Zhilyaev, A. P. and Langdon, T. G. (2012). Bulk nanostructured metals for innovative applications. *Jom, 64*(10), 1134-1142.

Valieva, R. Z. and Langdonb, T. G. (2014). *Report of International NanoSPD Steering Committee and statistics on recent NanoSPD activities.* Paper presented at the IOP Conference Series Materials Science and Engineering.

Van Tooren, M. and Krakers, L. (2007). *Multi-disciplinary design of aircraft fuselage structures.* Paper presented at the 45th AIAA Aerospace Sciences Meeting and Exhibit.

Verlinden, B., Driver, J., Samajdar, I. and Doherty, R. D. (2007). *Thermo-mechanical processing of metallic materials* (Vol. 11): Elsevier.

Volmer, M. (1939). Kinetik der Phasenbildung.

Vorhauer, A., Rumpf, K., Granitzer, P., Kleber, S., Krenn, H. and Pippan, R. (2006). *Magnetic properties and microstructure of a FeCo ferritic steel after severe plastic deformation.* Paper presented at the Materials Science Forum.

Wang, J., Furukawa, M., Horita, Z., Nemoto, M., Valiev, R. Z. and Langdon, T. G. (1996). Enhanced grain growth in an Al-Mg alloy with ultrafine grain size. *Materials Science and Engineering: A, 216*(1), 41-46.

Wang, T., Li, Z., Zhang, B., Zhang, X., Deng, J. and Zhang, F. (2010). High tensile ductility and high strength in ultrafine-grained low-carbon steel. *Materials Science and Engineering: A, 527*(10), 2798-2801.

Wang, Y., Chen, M., Zhou, F. and Ma, E. (2002). High tensile ductility in a nanostructured metal. *Nature, 419*(6910), 912-915.

Wang, Y., Jiao, T. and Ma, E. (2003). Dynamic processes for nanostructure development in Cu after severe cryogenic rolling deformation. *Materials Transactions, 44*(10), 1926-1934.

Wang, Y. and Ma, E. (2004). Three strategies to achieve uniform tensile deformation in a nanostructured metal. *Acta Materialia, 52*(6), 1699-1709.

WANG, Z.-d., GUO, Y.-h., Zhong, Z., LIU, X.-h. and WANG, G.-d. (2006). Effect of processing condition on texture and drawability of a ferritic rolled and annealed interstitial-free steel. *Journal of Iron and Steel Research, International, 13*(6), 60-65.

Wei, W., Nagasekhar, A., Chen, G., Tick-Hon, Y. and Wei, K. X. (2006). Origin of inhomogenous behavior during equal channel angular pressing. *Scripta Materialia, 54*(11), 1865-1869.

Weihnacht, V. and Brückner, W. (2001). Dislocation accumulation and strengthening in Cu thin films. *Acta Materialia, 49*(13), 2365-2372.

Wetscher, F., Vorhauer, A., Stock, R. and Pippan, R. (2004). Structural refinement of low alloyed steels during severe plastic deformation. *Materials Science and Engineering: A, 387*, 809-816.

Wulff, G. (1901). Zur frage der geschwindigkeit des wachstums und der auflosung der kristallflachen. *Z. Kristall. Mineral., 34*, 449.

Yapici, G., Beyerlein, I., Karaman, I. and Tome, C. (2007). Tension–compression asymmetry in severely deformed pure copper. *Acta Materialia, 55*(14), 4603-4613.

Yapici, G., Tomé, C., Beyerlein, I., Karaman, I., Vogel, S. and Liu, C. (2009). Plastic flow anisotropy of pure zirconium after severe plastic deformation at room temperature. *Acta Materialia, 57*(16), 4855-4865.

Yoda, R., Shibata, K., Morimitsu, T., Terada, D. and Tsuji, N. (2011). Formability of ultrafine-grained interstitial-free steel fabricated by accumulative roll-bonding and subsequent annealing. *Scripta Materialia, 65*(3), 175-178.

Zbib, H. M. and de la Rubia, T. D. (2002). A multiscale model of plasticity. *International Journal of Plasticity, 18*(9), 1133-1163.

Zhang, K., Weertman, J. and Eastman, J. (2005). Rapid stress-driven grain coarsening in nanocrystalline Cu at ambient and cryogenic temperatures. *Applied Physics Letters, 87*(6), 061921.

Zhang, Z., Son, I., Im, Y. and Park, J. (2007). Finite element analysis of plastic deformation of CP-Ti by multi-pass equal channel angular extrusion at medium hot-working temperature. *Materials Science and Engineering: A, 447*(1), 134-141.

Zhilyaev, A., Lee, S., Nurislamova, G., Valiev, R. and Langdon, T. (2001). Microhardness and microstructural evolution in pure nickel during high-pressure torsion. *Scripta Materialia, 44*(12), 2753-2758.

Zhilyaev, A., Nurislamova, G., Kim, B.-K., Baró, M., Szpunar, J. and Langdon, T. (2003). Experimental parameters influencing grain refinement and microstructural evolution during high-pressure torsion. *Acta Materialia, 51*(3), 753-765.

Zhilyaev, A., Oh-Ishi, K., Langdon, T. and McNelley, T. (2005). Microstructural evolution in commercial purity aluminum during high-pressure torsion. *Materials Science and Engineering: A, 410*, 277-280.

Zhilyaev, A. P. and Langdon, T. G. (2008). Using high-pressure torsion for metal processing: Fundamentals and applications. *Progress in Materials Science, 53*(6), 893-979.

Zhu, Y. T. and Lowe, T. C. (2000). Observations and issues on mechanisms of grain refinement during ECAP process. *Materials Science and Engineering: A, 291*(1), 46-53.

Zhu, Y. T., Lowe, T. C. and Langdon, T. G. (2004). Performance and applications of nanostructured materials produced by severe plastic deformation. *Scripta Materialia, 51*(8), 825-830.