Supplementary Material

# Supplementary Data

Table S1: search terms used in the literature search with the Scopus (Elsevier) database to identify relevant work on dry particle coating of powders for additive manufacturing

TITLE-ABS-KEY ( flow AND aid AND additive AND manufacturing )

TITLE-ABS-KEY ( flow AND aid AND selective AND laser AND sintering )

TITLE-ABS-KEY ( flow AND aid AND selective AND laser AND melting )

TITLE-ABS-KEY ( flow AND aid AND powder AND bed AND fusion )

TITLE-ABS-KEY ( dry AND coating AND powder AND bed AND fusion )

TITLE-ABS-KEY ( dry AND coating AND selective AND laser AND melting )

TITLE-ABS-KEY ( dry AND coating AND selective AND laser AND sintering )

TITLE-ABS-KEY ( dry AND coating AND selective AND additive AND manufacturing )

TITLE-ABS-KEY ( nanoparticle AND flowability AND additive AND manufacturing )

TITLE-ABS-KEY ( nanoparticle AND flowability AND selective AND laser AND sintering )

TITLE-ABS-KEY ( nanoparticle AND flowability AND selective AND laser AND melting )

TITLE-ABS-KEY ( nanoparticle AND powder AND bed AND fusion )

Relevant papers identified by the literature search:

47 articles or conference papers related to (dry) particle coating and powder bed fusion of metals (Doñate-Buendia et al. 2021; Doñate-Buendia et al. 2020; Filimonov et al. 2020; Gärtner et al. 2021; Guo et al. 2020; Han et al. 2019; Han et al. 2020; Heiland et al. 2021; Jadhav et al. 2020; Jadhav et al. 2019; Jadhav et al. 2021; Karg et al. 2018; Kenel et al. 2021; Krinitcyn et al. 2021; Kusoglu et al. 2020; Li et al. 2019; Li et al. 2021; Lüddecke et al. 2021; Mair et al. 2021; Mair et al. 2022; Niu et al. 2021; Pannitz et al. 2021; Paul et al. 2020; Qu et al. 2022; Ravichander et al. 2021; Sehrt et al. 2017; Shad et al. 2021; Shen et al. 2022; Shuai et al. 2021; Sun et al. 2021; Tan et al. 2020; Tertuliano et al. 2022; Vieth et al. 2020; Wang und Shi 2020; Wegner et al. 2021; Wu et al. 2021; Xinwei et al. 2020; Yang et al. 2021a; Yang et al. 2021b; Yao et al. 2017; Zhai et al. 2020; Zhang et al. 2019; Zhou et al. 2020a, 2020b; Zhou et al. 2018; Zhou et al. 2020c)

and 26 articles or conference papers related to (dry) particle coating and powder bed fusion of polymers (Blümel et al. 2014; Blümel et al. 2015; Chen et al. 2020; Dechet et al. 2019; Dechet et al. 2021; Gath und Drummer 2016; Golbang et al. 2020; Gomez Bonilla et al. 2019; Gómez Bonilla et al. 2021; Hupfeld et al. 2020a; Hupfeld et al. 2020b; Hupfeld et al. 2020c; Hupfeld et al. 2020d; Kleijnen et al. 2019; Kloos et al. 2018; Schmidt et al. 2019a; Schmidt et al. 2019b; Schmidt et al. 2014, 2015; Schmidt et al. 2016a, 2017; Schmidt et al. 2016b; Schmidt et al. 2016c; Sommereyns et al. 2021; Xi et al. 2020; Yazdani et al. 2018).

References

Blümel, C.; Schmidt, J.; Dielesen, A.; Sachs, M.; Winzer, B.; Peukert, W.; Wirth, K.-E. (2014): Dry particle coating of polymer particles for tailor-made product properties. In: *AIP Conference Proceedings* 1593. DOI: 10.1063/1.4873774.

Blümel, Christina; Sachs, Marius; Laumer, Tobias; Winzer, Bettina; Schmidt, Jochen; Schmidt, Michael et al. (2015): Increasing flowability and bulk density of PE-HD powders by a dry particle coating process and impact on LBM processes. In: *Rapid Prototyping Journal* 21 (6), S. 697–704. DOI: 10.1108/rpj-07-2013-0074.

Chen, B.; Davies, R.; Liu, Y.; Yi, N.; Qiang, D.; Zhu, Y.; Ghita, O. (2020): Laser sintering of graphene nanoplatelets encapsulated polyamide powders. In: *Additive Manufacturing* 35. DOI: 10.1016/j.addma.2020.101363.

Dechet, M. A.; Goblirsch, A.; Romeis, S.; Zhao, M.; Lanyi, F. J.; Kaschta, J. et al. (2019): Production of polyamide 11 microparticles for Additive Manufacturing by liquid-liquid phase separation and precipitation. In: *Chemical Engineering Science* 197, S. 11–25. DOI: 10.1016/j.ces.2018.11.051.

Dechet, M. A.; Gómez Bonilla, J. S.; Grünewald, M.; Popp, K.; Rudloff, J.; Lang, M.; Schmidt, J. (2021): A novel, precipitated polybutylene terephthalate feedstock material for powder bed fusion of polymers (PBF): Material development and initial PBF processability. In: *Materials and Design* 197. DOI: 10.1016/j.matdes.2020.109265.

Doñate-Buendia, C.; Kürnsteiner, P.; Stern, F.; Wilms, M. B.; Streubel, R.; Kusoglu, I. M. et al. (2021): Microstructure formation and mechanical properties of ODS steels built by laser additive manufacturing of nanoparticle coated iron-chromium powders. In: *Acta Materialia* 206. DOI: 10.1016/j.actamat.2020.116566.

Doñate-Buendia, C.; Streubel, R.; Kürnsteiner, P.; Wilms, M. B.; Stern, F.; Tenkamp, J. et al. (2020): Effect of nanoparticle additivation on the microstructure and microhardness of oxide dispersion strengthened steels produced by laser powder bed fusion and directed energy deposition. In: *Procedia CIRP* 94. DOI: 10.1016/j.procir.2020.09.009.

Filimonov, A. M.; Rogozin, O. A.; Firsov, D. G.; Kuzminova, Y. O.; Sergeev, S. N.; Zhilyaev, A. P. et al. (2020): Hardening of additive manufactured 316l stainless steel by using bimodal powder containing nanoscale fraction. In: *Materials* 14 (1), S. 1–14. DOI: 10.3390/ma14010115.

Gärtner, E.; Jung, H. Y.; Peter, N. J.; Dehm, G.; Jägle, E. A.; Uhlenwinkel, V.; Mädler, L. (2021): Reducing cohesion of metal powders for additive manufacturing by nanoparticle dry-coating. In: *Powder Technology* 379, S. 585–595. DOI: 10.1016/j.powtec.2020.10.065.

Gath, C.; Drummer, D. (2016): Curcuit board application to additive manufactured components by laser-direct-structuring. In: *2016 12th International Congress Molded Interconnect Devices - Scientific Proceedings, MID 2016*. DOI: 10.1109/ICMID.2016.7738926.

Golbang, A.; Harkin-Jones, E.; Wegrzyn, M.; Campbell, G.; Archer, E.; McIlhagger, A. (2020): Production and characterization of PEEK/IF-WS2 nanocomposites for additive manufacturing: Simultaneous improvement in processing characteristics and material properties. In: *Additive Manufacturing* 31. DOI: 10.1016/j.addma.2019.100920.

Gomez Bonilla, J. S.; Trzenschiok, H.; Lanyi, F.; Schubert, D. W.; Bück, A.; Schmidt, J.; Peukert, W. (2019): Tailored modification of flow behavior and processability of polypropylene powders in SLS by fluidized bed coating with in-situ plasma produced silica nanoparticles. In: *Solid Freeform Fabrication 2019: Proceedings of the 30th Annual International Solid Freeform Fabrication Symposium - An Additive Manufacturing Conference, SFF 2019*. Online verfügbar unter <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85095963751&partnerID=40&md5=6c43d6ddc99de769520280ef70d6c74b>.

Gómez Bonilla, J. S.; Düsenberg, B.; Lanyi, F.; Schmuki, P.; Schubert, D. W.; Schmidt, J. et al. (2021): Improvement of polymer properties for powder bed fusion by combining in situ PECVD nanoparticle synthesis and dry coating. In: *Plasma Processes and Polymers* 18 (6). DOI: 10.1002/ppap.202000247.

Guo, C.; Yu, Z.; Liu, C.; Li, X.; Zhu, Q.; Mark Ward, R. (2020): Effects of Y2O3 nanoparticles on the high-temperature oxidation behavior of IN738LC manufactured by laser powder bed fusion. In: *Corrosion Science* 171. DOI: 10.1016/j.corsci.2020.108715.

Han, Q.; Gu, Y.; Setchi, R.; Lacan, F.; Johnston, R.; Evans, S. L.; Yang, S. (2019): Additive manufacturing of high-strength crack-free Ni-based Hastelloy X superalloy. In: *Additive Manufacturing* 30. DOI: 10.1016/j.addma.2019.100919.

Han, Q.; Gu, Y.; Wang, L.; Feng, Q.; Gu, H.; Johnston, R.; Setchi, R. (2020): Effects of TiC content on microstructure and mechanical properties of nickel-based hastelloy X nanocomposites manufactured by selective laser melting. In: *Materials Science and Engineering A* 796. DOI: 10.1016/j.msea.2020.140008.

Heiland, S.; Milkereit, B.; Hoyer, K.-P.; Zhuravlev, E.; Kessler, O.; Schaper, M. (2021): Requirements for processing high-strength alznmgcu alloys with pbf-lb/m to achieve crack-free and dense parts. In: *Materials* 14 (23). DOI: 10.3390/ma14237190.

Hupfeld, T.; Doñate-Buendía, C.; Krause, M.; Sommereyns, A.; Wegner, A.; Sinnemann, T. et al. (2020a): Scaling up colloidal surface additivation of polymer powders for laser powder bed fusion. In: *Procedia CIRP* 94. DOI: 10.1016/j.procir.2020.09.022.

Hupfeld, T.; Salamon, S.; Landers, J.; Sommereyns, A.; Doñate-Buendía, C.; Schmidt, J. et al. (2020b): 3D printing of magnetic parts by laser powder bed fusion of iron oxide nanoparticle functionalized polyamide powders. In: *Journal of Materials Chemistry C* 8 (35), S. 12204–12217. DOI: 10.1039/d0tc02740e.

Hupfeld, T.; Sommereyns, A.; Riahi, F.; Doñate-Buendía, C.; Gann, S.; Schmidt, M. et al. (2020c): Analysis of the nanoparticle dispersion and its effect on the crystalline microstructure in carbon-additivated PA12 feedstock material for laser powder bed fusion. In: *Materials* 13 (15). DOI: 10.3390/ma13153312.

Hupfeld, T.; Sommereyns, A.; Schuffenhauer, T.; Zhuravlev, E.; Krebs, M.; Gann, S. et al. (2020d): How colloidal surface additivation of polyamide 12 powders with well-dispersed silver nanoparticles influences the crystallization already at low 0.01 vol%. In: *Additive Manufacturing* 36. DOI: 10.1016/j.addma.2020.101419.

Jadhav, S. D.; Dadbakhsh, S.; Chen, R.; Shabadi, R.; Kruth, J.-P.; van Humbeeck, J.; Vanmeensel, K. (2020): Modification of Electrical and Mechanical Properties of Selective Laser-Melted CuCr0.3 Alloy Using Carbon Nanoparticles. In: *Advanced Engineering Materials* 22 (2). DOI: 10.1002/adem.201900946.

Jadhav, S. D.; Dadbakhsh, S.; Vleugels, J.; Hofkens, J.; Puyvelde, P. V.; Yang, S. et al. (2019): Influence of carbon nanoparticle addition (and impurities) on selective laser melting of pure copper. In: *Materials* 12 (15). DOI: 10.3390/ma12152469.

Jadhav, S. D.; Dhekne, P. P.; Brodu, E.; van Hooreweder, B.; Dadbakhsh, S.; Kruth, J.-P. et al. (2021): Laser powder bed fusion additive manufacturing of highly conductive parts made of optically absorptive carburized CuCr1 powder. In: *Materials and Design* 198. DOI: 10.1016/j.matdes.2020.109369.

Karg, M.C.H.; Rasch, M.; Schmidt, K.; Spitzer, S.A.E.; Karsten, T. F.; Schlaug, D. et al. (2018): Laser alloying advantages by dry coating metallic powder mixtures with SiOx nanoparticles. In: *Nanomaterials* 8 (10). DOI: 10.3390/nano8100862.

Kenel, C.; Luca, A. de; Joglekar, S. S.; Leinenbach, C.; Dunand, D. C. (2021): Evolution of Y2O3 dispersoids during laser powder bed fusion of oxide dispersion strengthened Ni-Cr-Al-Ti γ/γ’ superalloy. In: *Additive Manufacturing* 47. DOI: 10.1016/j.addma.2021.102224.

Kleijnen, R. G.; Schmid, M.; Wegener, K. (2019): Impact of flow aid on the flowability and coalescence of polymer laser sintering powder. In: *Solid Freeform Fabrication 2019: Proceedings of the 30th Annual International Solid Freeform Fabrication Symposium - An Additive Manufacturing Conference, SFF 2019*. Online verfügbar unter <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85095968728&partnerID=40&md5=9d6594d3aef452edf355cfeaa0b08400>.

Kloos, S.; Dechet, M. A.; Peukert, W.; Schmidt, J. (2018): Production of spherical semi-crystalline polycarbonate microparticles for Additive Manufacturing by liquid-liquid phase separation. In: *Powder Technology* 335, S. 275–284. DOI: 10.1016/j.powtec.2018.05.005.

Krinitcyn, M.; Toropkov, N.; Pervikov, A.; Glazkova, E.; Lerner, M. (2021): Characterization of nano / micro bimodal 316L SS powder obtained by electrical explosion of wire for feedstock application in powder injection molding. In: *Powder Technology* 394, S. 225–233. DOI: 10.1016/j.powtec.2021.08.061.

Kusoglu, I. M.; Gökce, B.; Barcikowski, S. (2020): Use of (nano-)additives in Laser Powder Bed Fusion of Al powder feedstocks: Research directions within the last decade. In: *Procedia CIRP* 94. DOI: 10.1016/j.procir.2020.09.003.

Li, K.; Wang, D.; Xing, L.; Wang, Y.; Yu, C.; Chen, J. et al. (2019): Crack suppression in additively manufactured tungsten by introducing secondary-phase nanoparticles into the matrix. In: *International Journal of Refractory Metals and Hard Materials* 79, S. 158–163. DOI: 10.1016/j.ijrmhm.2018.11.013.

Li, X.; Li, G.; Zhang, M.-X.; Zhu, Q. (2021): Novel approach to additively manufacture high-strength Al alloys by laser powder bed fusion through addition of hybrid grain refiners. In: *Additive Manufacturing* 48. DOI: 10.1016/j.addma.2021.102400.

Lüddecke, A.; Pannitz, O.; Zetzener, H.; Sehrt, J. T.; Kwade, A. (2021): Powder properties and flowability measurements of tailored nanocomposites for powder bed fusion applications. In: *Materials and Design* 202. DOI: 10.1016/j.matdes.2021.109536.

Mair, P.; Goettgens, V. S.; Rainer, T.; Weinberger, N.; Letofsky-Papst, I.; Mitsche, S.; Leichtfried, G. (2021): Laser powder bed fusion of nano-CaB6 decorated 2024 aluminum alloy. In: *Journal of Alloys and Compounds* 863. DOI: 10.1016/j.jallcom.2021.158714.

Mair, P.; Kaserer, L.; Braun, J.; Stajkovic, J.; Klein, C.; Schimbäck, D. et al. (2022): Dependence of mechanical properties and microstructure on solidification onset temperature for Al2024–CaB6 alloys processed using laser powder bed fusion. In: *Materials Science and Engineering A* 833. DOI: 10.1016/j.msea.2021.142552.

Niu, X.; Shen, H.; Fu, J.; Feng, J. (2021): Effective control of microstructure evolution in AZ91D magnesium alloy by SiC nanoparticles in laser powder-bed fusion. In: *Materials and Design* 206. DOI: 10.1016/j.matdes.2021.109787.

Pannitz, O.; Großwendt, F.; Lüddecke, A.; Kwade, A.; Röttger, A.; Sehrt, J. T. (2021): Improved process efficiency in laser‐based powder bed fusion of nanoparticle coated maraging tool steel powder. In: *Materials* 14 (13). DOI: 10.3390/ma14133465.

Paul, B. K.; Lee, K.; He, Y.; Ghayoor, M.; Chang, C.-H.; Pasebani, S. (2020): Oxide dispersion strengthened 304 L stainless steel produced by ink jetting and laser powder bed fusion. In: *CIRP Annals* 69 (1), S. 193–196. DOI: 10.1016/j.cirp.2020.04.071.

Qu, M.; Guo, Q.; Escano, L. I.; Nabaa, A.; Hojjatzadeh, S.M.H.; Young, Z. A.; Chen, L. (2022): Controlling process instability for defect lean metal additive manufacturing. In: *Nature Communications* 13 (1). DOI: 10.1038/s41467-022-28649-2.

Ravichander, B. B.; Amerinatanzi, A.; Moghaddam, N. S. (2021): Toward mitigating microcracks using nanopowders in laser powder bed fusion. In: *Proceedings of SPIE - The International Society for Optical Engineering* 11589. DOI: 10.1117/12.2585606.

Schmidt, J.; Dechet, M.; Bonilla, J. G.; Kloos, S.; Wirth, K. E.; Peukert, W. (2019a): Novel process routes towards the production of spherical polymer powders for selective laser sintering. In: *AIP Conference Proceedings* 2139. DOI: 10.1063/1.5121697.

Schmidt, J.; Dechet, M. A.; Gómez Bonilla, J. S.; Hesse, N.; Bück, A.; Peukert, W. (2019b): Characterization of polymer powders for selective laser sintering. In: *Solid Freeform Fabrication 2019: Proceedings of the 30th Annual International Solid Freeform Fabrication Symposium - An Additive Manufacturing Conference, SFF 2019*. Online verfügbar unter <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85093359272&partnerID=40&md5=763fa134b03585c0eec93eef6d160f40>.

Schmidt, J.; Sachs, M.; Blümel, C.; Winzer, B.; Toni, F.; Wirth, K.-E.; Peukert, W. (2014): A novel process route for the production of spherical LBM polymer powders with small size and good flowability. In: *Powder Technology* 261, S. 78–86. DOI: 10.1016/j.powtec.2014.04.003.

Schmidt, J.; Sachs, M.; Blümel, C.; Winzer, B.; Toni, F.; Wirth, K.-E.; Peukert, W. (2015): A novel process chain for the production of spherical sls polymer powders with good flowability. In: *Procedia Engineering* 102. DOI: 10.1016/j.proeng.2015.01.123.

Schmidt, J.; Sachs, M.; Fanselow, S.; Wirth, K.-E.; Peukert, W. (2016a): Novel approaches for the production of polymer powders for selective laser beam melting of polymers. In: *Solid Freeform Fabrication 2016: Proceedings of the 27th Annual International Solid Freeform Fabrication Symposium - An Additive Manufacturing Conference, SFF 2016*. Online verfügbar unter <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85058166373&partnerID=40&md5=56e63af313c17fb49736946ea2cd1afa>.

Schmidt, J.; Sachs, M.; Fanselow, S.; Wirth, K.-E.; Peukert, W. (2017): New approaches towards production of polymer powders for selective laser beam melting of polymers. In: *AIP Conference Proceedings* 1914. DOI: 10.1063/1.5016797.

Schmidt, J.; Sachs, M.; Fanselow, S.; Zhao, M.; Romeis, S.; Drummer, D. et al. (2016b): Optimized polybutylene terephthalate powders for selective laser beam melting. In: *Chemical Engineering Science* 156, S. 1–10. DOI: 10.1016/j.ces.2016.09.009.

Schmidt, J.; Sachs, M.; Zhao, M.; Fanselow, S.; Wudy, K.; Drexler, M. et al. (2016c): A novel process for production of spherical PBT powders and their processing behavior during laser beam melting. In: *AIP Conference Proceedings* 1713. DOI: 10.1063/1.4942343.

Sehrt, J. T.; Kleszczynski, S.; Notthoff, C. (2017): Nanoparticle improved metal materials for additive manufacturing. In: *Progress in Additive Manufacturing* 2 (4), S. 179–191. DOI: 10.1007/s40964-017-0028-9.

Shad, A.; Stache, R.; Rütjes, A. (2021): Effects of fumed silica flow aids on flowability and packing of metal powders used in Binder-Jetting additive manufacturing process. In: *Materials and Design* 212. DOI: 10.1016/j.matdes.2021.110253.

Shen, J.; Li, Z.; Li, H.; Yao, B.; Teng, B. (2022): Additive manufacturing of high relative density Cu-0.8Cr alloy by low power 1064 nm Yb-fiber laser powder bed fusion: Role of Nano-TiC modification. In: *Materials Letters* 308. DOI: 10.1016/j.matlet.2021.131141.

Shuai, C.; Dong, Z.; Yang, W.; He, C.; Yang, Y.; Peng, S. (2021): Rivet-Inspired Modification of Carbon Nanotubes by in Situ-Reduced Ag Nanoparticles to Enhance the Strength and Ductility of Zn Implants. In: *ACS Biomaterials Science and Engineering* 7 (12), S. 5484–5496. DOI: 10.1021/acsbiomaterials.1c00931.

Sommereyns, A.; Hupfeld, T.; Gann, S.; Wang, T.; Wu, C.; Zhuravlev, E. et al. (2021): Influence of sub-monolayer quantities of carbon nanoparticles on the melting and crystallization behavior of polyamide 12 powders for additive manufacturing. In: *Materials and Design* 201. DOI: 10.1016/j.matdes.2021.109487.

Sun, J.; Zhang, B.; Qu, X. (2021): High strength Al alloy development for laser powder bed fusion. In: *Journal of Micromechanics and Molecular Physics* 6 (2). DOI: 10.1142/S2424913021410010.

Tan, Q.; Zhang, J.; Mo, N.; Fan, Z.; Yin, Y.; Bermingham, M. et al. (2020): A novel method to 3D-print fine-grained AlSi10Mg alloy with isotropic properties via inoculation with LaB6 nanoparticles. In: *Additive Manufacturing* 32. DOI: 10.1016/j.addma.2019.101034.

Tertuliano, O. A.; DePond, P. J.; Doan, D.; Matthews, M. J.; Gu, X. W.; Cai, W.; Lew, A. J. (2022): Nanoparticle-enhanced absorptivity of copper during laser powder bed fusion. In: *Additive Manufacturing* 51. DOI: 10.1016/j.addma.2021.102562.

Vieth, P.; Voigt, M.; Ebbert, C.; Milkereit, B.; Zhuravlev, E.; Yang, B. et al. (2020): Surface inoculation of aluminium powders for additive manufacturing of Al-7075 alloys. In: *Procedia CIRP* 94. DOI: 10.1016/j.procir.2020.09.004.

Wang, Y.; Shi, J. (2020): Effect of hot isostatic pressing on nanoparticles reinforced AlSi10Mg produced by selective laser melting. In: *Materials Science and Engineering A* 788. DOI: 10.1016/j.msea.2020.139570.

Wegner, J.; Frey, M.; Piechotta, M.; Neuber, N.; Adam, B.; Platt, S. et al. (2021): Influence of powder characteristics on the structural and the mechanical properties of additively manufactured Zr-based bulk metallic glass. In: *Materials and Design* 209. DOI: 10.1016/j.matdes.2021.109976.

Wu, W.; Gao, C.; Liu, Z.; Wong, K.; Xiao, Z. (2021): Laser powder bed fusion of crack-free TiN/Al7075 composites with enhanced mechanical properties. In: *Materials Letters* 282. DOI: 10.1016/j.matlet.2020.128625.

Xi, S.; Zhang, P.; Huang, Y.; Kong, M.; Yang, Q.; Li, G. (2020): Laser sintering of cryogenically ground polymer powders into high-performance parts: The role of dry particle coating with a conductive flow agent. In: *Polymer* 186. DOI: 10.1016/j.polymer.2019.122044.

Xinwei, L.; Shi, S.; Shuang, H.; Xiaogang, H.; Qiang, Z.; Hongxing, L. et al. (2020): Microstructure, solidification behavior and mechanical properties of Al-Si-Mg-Ti/TiC fabricated by selective laser melting. In: *Additive Manufacturing* 34. DOI: 10.1016/j.addma.2020.101326.

Yang, M.; Wang, L.; Yan, W. (2021a): Phase-field modeling of grain evolutions in additive manufacturing from nucleation, growth, to coarsening. In: *npj Computational Materials* 7 (1). DOI: 10.1038/s41524-021-00524-6.

Yang, Y.; Doñate-Buendía, C.; Oyedeji, T. D.; Gökce, B.; Xu, B.-X. (2021b): Nanoparticle tracing during laser powder bed fusion of oxide dispersion strengthened steels. In: *Materials* 14 (13). DOI: 10.3390/ma14133463.

Yao, X.; Moon, S. K.; Lee, B. Y.; Bi, G. (2017): Effects of heat treatment on microstructures and tensile properties of IN718/TiC nanocomposite fabricated by selective laser melting. In: *International Journal of Precision Engineering and Manufacturing* 18 (12), S. 1693–1701. DOI: 10.1007/s12541-017-0197-y.

Yazdani, B.; Chen, B.; Benedetti, L.; Davies, R.; Ghita, O.; Zhu, Y. (2018): A new method to prepare composite powders customized for high temperature laser sintering. In: *Composites Science and Technology* 167, S. 243–250. DOI: 10.1016/j.compscitech.2018.08.006.

Zhai, W.; Zhou, W.; Nai, S.M.L.; Wei, J. (2020): Characterization of nanoparticle mixed 316 L powder for additive manufacturing. In: *Journal of Materials Science and Technology* 47, S. 162–168. DOI: 10.1016/j.jmst.2020.02.019.

Zhang, X.; Mao, B.; Histed, R.; Trabia, M.; O’Toole, B.; Jennings, R. et al. (2019): Selective laser melting of Ti/SiC nanocomposite coating towards enhanced surface performance of Ti64. In: *MS and T 2019 - Materials Science and Technology 2019*. DOI: 10.7449/2019/MST\_2019\_356\_363.

Zhou, W.; Kikuchi, K.; Nomura, N.; Yoshimi, K.; Kawasaki, A. (2020a): In-situ formation of ceramic layer on Mo-based composites via laser powder bed fusion. In: *Materialia* 10. DOI: 10.1016/j.mtla.2020.100655.

Zhou, W.; Kikuchi, K.; Nomura, N.; Yoshimi, K.; Kawasaki, A. (2020b): Novel laser additive-manufactured Mo-based composite with enhanced mechanical and oxidation properties. In: *Journal of Alloys and Compounds* 819. DOI: 10.1016/j.jallcom.2019.152981.

Zhou, W.; Sun, X.; Kikuchi, K.; Nomura, N.; Yoshimi, K.; Kawasaki, A. (2018): Carbon nanotubes as a unique agent to fabricate nanoceramic/metal composite powders for additive manufacturing. In: *Materials and Design* 137, S. 276–285. DOI: 10.1016/j.matdes.2017.10.034.

Zhou, W.; Zhu, G.; Wang, R.; Yang, C.; Tian, Y.; Zhang, L. et al. (2020c): Inhibition of cracking by grain boundary modification in a non-weldable nickel-based superalloy processed by laser powder bed fusion. In: *Materials Science and Engineering A* 791. DOI: 10.1016/j.msea.2020.139745.