

# Kai Hilgenberg

## List of Publications by Year in descending order

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Version: 2024-02-01

28  
papers

507  
citations

840776

11  
h-index

677142

22  
g-index

28  
all docs

28  
docs citations

28  
times ranked

368  
citing authors

#	ARTICLE	IF	CITATIONS
1	Experimental and numerical comparison of heat accumulation during laser powder bed fusion of 316L stainless steel. <i>Progress in Additive Manufacturing</i> , 2022, 7, 1071-1083.	4.8	4
2	Investigation of the thermal history of L-PBF metal parts by feature extraction from in-situ SWIR thermography. , 2021, , .		3
3	Towards a Methodology for Component Design of Metallic AM Parts Subjected to Cyclic Loading. <i>Metals</i> , 2021, 11, 709.	2.3	4
4	Process Induced Preheating in Laser Powder Bed Fusion Monitored by Thermography and Its Influence on the Microstructure of 316L Stainless Steel Parts. <i>Metals</i> , 2021, 11, 1063.	2.3	17
5	Investigation of the thermal and tribological performance of localized laser dispersed tool surfaces under hot stamping conditions. <i>Wear</i> , 2021, 476, 203694.	3.1	5
6	Damage tolerant design of additively manufactured metallic components subjected to cyclic loading: State of the art and challenges. <i>Progress in Materials Science</i> , 2021, 121, 100786.	32.8	106
7	In-Situ Defect Detection in Laser Powder Bed Fusion by Using Thermography and Optical Tomography—Comparison to Computed Tomography. <i>Metals</i> , 2020, 10, 103.	2.3	90
8	Investigations on TaC Localized Dispersed X38CrMoV5-3 Surfaces with Regard to the Manufacturing of Wear Resistant Protruded Surface Textures. <i>Lasers in Manufacturing and Materials Processing</i> , 2020, 7, 38-58.	2.2	0
9	Microstructural evolution and geometrical properties of TiB <sub>2</sub> metal matrix composite protrusions on hot work tool steel surfaces manufactured by laser implantation. <i>International Journal of Advanced Manufacturing Technology</i> , 2020, 106, 481-501.	3.0	12
10	In situ heat accumulation by geometrical features obstructing heat flux and by reduced inter layer times in laser powder bed fusion of AISI 316L stainless steel. <i>Procedia CIRP</i> , 2020, 94, 155-160.	1.9	22
11	Experimental Determination of the Emissivity of Powder Layers and Bulk Material in Laser Powder Bed Fusion Using Infrared Thermography and Thermocouples. <i>Metals</i> , 2020, 10, 1546.	2.3	30
12	Localized Laser Dispersing of Titanium-Based Particles for Improving the Tribological Performance of Hot Stamping Tools. <i>Journal of Manufacturing and Materials Processing</i> , 2020, 4, 68.	2.2	3
13	Numerical and Experimental Investigation of Controlled Weld Pool Displacement by Electromagnetic Forces for Joining Dissimilar Materials. <i>Metals</i> , 2020, 10, 1447.	2.3	1
14	Influence of welding parameters on electromagnetic supported degassing of die-casted and wrought aluminum. <i>Journal of Laser Applications</i> , 2020, 32, .	1.7	4
15	Effects of inter layer time and build height on resulting properties of 316L stainless steel processed by laser powder bed fusion. <i>Additive Manufacturing</i> , 2020, 32, 101080.	3.0	42
16	Probing a novel heat source model and adaptive remeshing technique to simulate laser powder bed fusion with experimental validation. <i>Computational Materials Science</i> , 2020, 181, 109752.	3.0	30
17	On the influence of TiB <sub>2</sub> , TiC, and TiN hard particles on the microstructure of localized laser dispersed AISI D2 tool steel surfaces. <i>Journal of Laser Applications</i> , 2020, 32, 022028.	1.7	3
18	Enabling the 3D Printing of Metal Components in 0-Gravity. <i>Advanced Materials Technologies</i> , 2019, 4, 1900506.	5.8	31

#	ARTICLE	IF	CITATIONS
19	Laser Implantation: An Innovative Technique for Surface Texturing. PhotonicsViews, 2019, 16, 38-41.	0.1	3
20	Dispersion behavior of TiB <sub>2</sub> particles in AISI D2 tool steel surfaces during pulsed laser dispersing and their influence on material properties. Applied Surface Science, 2019, 467-468, 493-504.	6.1	8
21	Build-up strategies for additive manufacturing of three dimensional Ti-6Al-4V-parts produced by laser metal deposition. Journal of Laser Applications, 2018, 30, .	1.7	18
22	Improved degassing in laser beam welding of aluminum die casting by an electromagnetic field. Journal of Materials Processing Technology, 2018, 253, 51-56.	6.3	43
23	Numerical simulation of the weld pool dynamics during pulsed laser welding using adapted heat source models. Procedia CIRP, 2018, 74, 679-682.	1.9	5
24	Schadensentwicklung und Schadenstoleranz von SLM-gefertigten Strukturen. , 2017, , 241-270.		1
25	High Power Laser Beam Welding of Thick-walled Ferromagnetic Steels with Electromagnetic Weld Pool Support. Physics Procedia, 2016, 83, 362-372.	1.2	18
26	Surface Structuring by Pulsed Laser Implantation. Materials Science Forum, 2016, 879, 750-755.	0.3	3
27	Laser Implantation of Niobium and Titanium-Based Particles on Hot Working Tool Surfaces for Improving the Tribological Performance within Hot Stamping. Defect and Diffusion Forum, 0, 404, 117-123.	0.4	0
28	Tribological and Thermal Behavior of Laser Implanted Tool Surfaces for Hot Stamping AlSi Coated 22MnB5 Sheets. Defect and Diffusion Forum, 0, 414, 69-74.	0.4	1