FAN ZHOU

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EDUCATION

Southern University of Science and Technology Shenzhen, China
M.Eng. in Material Engineering Sept. 2020 - June 2022

Southern University of Science and Technology Shenzhen, China
B.Eng. in Mechanical Engineering Sept. 2015 - June 2019

PUBLICATIONS

Zhou F., Hu X., ... Zhu Q., Effect of post heat treatment on anisotropic mechanical properties of laser additively manufactured Inconel 718. (To be submitted)

Zhou Y., Qu W., **Zhou F.**, ... Zhu Q. (2022), Thermo-fluid flow behavior of the IN718 molten pool in the laser directed energy deposition process under magnetic field, *Accepted by Rapid Prototyping Journal*. (Contribution: Sample preparation and microstructure characterization)

Guo C., Yu Z., Hu X., Li G., **Zhou F.**, Xu Z., … Zhu Q. (2022), Y_2O_3 nanoparticles decorated IN738LC superalloy manufactured by laser powder bed fusion: Cracking inhibition, microstructures and mechanical properties, *Composites Part B: Engineering, 230*, 109555. (Contribution: Microstructure characterization)

RESEARCH EXPERIENCE

Shenzhen Key Laboratory for Additive Manufacturing of High-performance Material Shenzhen, China
Supervisor: Prof. Qiang Zhu and Prof. Xiaogang Hu Sept. 2020 - Present

– ***Key parameters and potential effects of Liquid-induced isothermal heat treatment (LIHT)***
- Investigating the correspondence of different parameters on LIHT process
- Evaluating the effects of LIHT on electrochemical corrosion behavior and fatigue property
- Exploring the effects of LIHT on other superalloys, trying to find common characteristics
- Operating the SLM Sloutions®280 HL machine for sample preparation

– ***Effects of heat treatment on tensile and creep anisotropy of laser additively manufactured Inconel 718***
- Analyzed the anisotropic microstructure, tensile, and creep properties of Inconel 718 produced by laser powder bed fusion (LPBF) and laser directed energy deposition (LDED)
- Determined the appropriate parameters of LIHT for Inconel 718 via various experiments
- Evaluated the degree of anisotropy elimination by LIHT, compared with other heat treatments
- Learned the operation of SLM Sloutions®280 HL machine
- Developed a robot-based laser directed energy deposition system

– ***In-situ alloying of Al-Cu alloy manufactured via LPBF***
- Mitigated lack of fusion defect by applying higher laser power and larger spot size or sieving mixed powder to get smaller size

Shenzhen Key Laboratory of Hydrogen Energy Shenzhen, China
Supervisor: Prof. Haijiang Wang Sept. 2017 - June 2019

– ***Design of a fuel cell system for unmanned aerial vehicle (UAV)***
- Earned a 2,800 EUR grant from Guangdong Province
- Designed a new type of fuel cell and bipolar for prospective application in unmanned aerial vehicle and applied for a patent

Shenzhen Southerntech Fuel Cell Corp., Ltd. Shenzhen, China
Supervisor: Engr. Yong Zhou June 2018 - Aug. 2018
– ***Summer Research Intern***
- Learned the assembly process of fuel cell and tested the air tightness performance

Tsinghua University, Department of Mechanical Engineering Beijing, China
Supervisor: Prof. Gang Wang July 2016 - Aug. 2016
– ***Summer Research Intern***
- Paper review to investigate different types of additive manufacturing and proper applications
- Developed moving platforms for fused deposition modeling

SKILLS

Characterization	SEM, EBSD, EDX, XRD, DSC, etc.
Technical Tools	Solidworks, AutoCAD, Matlab, Adobe Illustrator, Origin, LaTeX, Markdown, etc.

HONORS AND AWARDS

Second-Class Scholarship for Comprehensive Design, College of Engineering, SUSTech	2019
Second-Class SUSTech Scholarship for Outstanding Students	2015