Fan Zhou

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Education

Southern University of Science and Technology Shenzhen, China
Master of Engineering, Material Engineering Sept. 2020 - June 2022(expected)

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

Publications

Fan Zhou, et al. Effects of post heat treatment on anisotropic mechanical properties of laser additively manufactured Inconel 718. (In preparation)

Chuan Guo, ..., **Fan Zhou**, et al. 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: Material characterization)

Research Experience

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

- *The effect of liquid-induced isothermal heat treatment(LIHT)on microstructural and mechanical anisotropy*
  - Analyzing the anisotropy in microstructure and mechanical properties of superalloy laser-based additive manufacturing
  - Determining the appropriate parameters of LIHT via various experiments
  - Evaluating the elimination of anisotropy by LIHT, comparing with other methods
  - Learned the operation of SLM Sloution®280 HL
  - Developed a robot-based laser metal deposition system
- *In-situ alloying of Al-Cu alloy via selective laser melting (SLM)*
  - Mitigated lack of fusion defect by applying higher laser power and larger spot size or sieving mixed powder to get smaller size

Southern University of Science and Technology Shenzhen, China
- *Undergraduate Research Assistant at Hydrogen Energy and Fuel cell Laboratory* Sept. 2017 - June 2019
Supervisor: Professor Haijiang Wang
  - Earned a 2,800 EUR grant from Guangdong Province
  - Designed a new type of fuel cell and bipolar for prospective application in unmanned vehicle and applied for a patent

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

Tsinghua University, Department of Mechanical Engineering Beijing, China

- *Summer Research Intern* July 2016 - Aug. 2016

Supervisor: Professor Gang Wang

- Paper review to investigate different types of additive manufacturing and proper applications
- Developed moving platforms for fused deposition modeling

HONORS AND AWARDS

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

SKILL HIGHLIGHTS

Material characterization: SEM, EBSD, EDX, XRD, DSC; etc.

Technical: Solidworks; AutoCAD; Matlab; Adobe Illustrator; Origin; LaTeX; Markdown; etc.

NON-ACADEMIC EXPERIENCE

President, SUSTech Science Fiction Association 2016-2017

- Designed and organized different activities to show the fantasy of science fiction, cooperated with serval science fiction club all over China. Additionally, we got the award of Top 10 clubs of SUSTech in 2017.

Co-founder, SUSTech Tutor 2018-2019

- Provided a platform for the communication between parents in Shenzhen and students in SUSTech.