

Clusters4Future Hydrogen - Industrial Burners for Naturalgas-Hydrogen Mixtures (HyInnoBurn)

Enabling Industries Through the Energy Transition



Motivation and Relevance

- Necessary change from natural gas to hydrogen in hard-to-electrify sectors (e.g. steel) needs specialized burners
- Relevant for burner manufacturers and new material suppliers

Approach

- Pure copper powder from Infinite Flex GmbH processed in commercial LPBF machine
- Parametric burner design for easy optimization

Results

- Pure copper enables high thermal conductivity for use in high-temperature environment
- AM enables design optimization for an optimized flame behavior → higher efficiency, lower emissions, better safety
- AM enables sensor integration

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Research Area

- Hydrogen
- DfAM

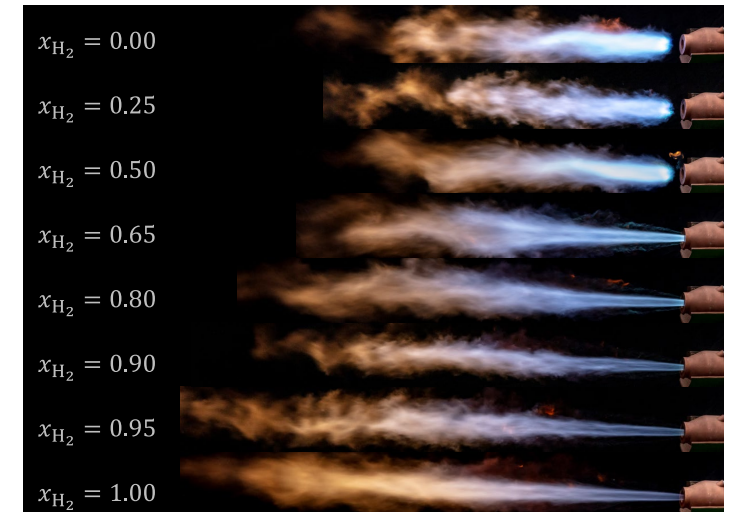
Partners



Supported by



Picture



x_{H_2} : H_2 concentration

Contact

