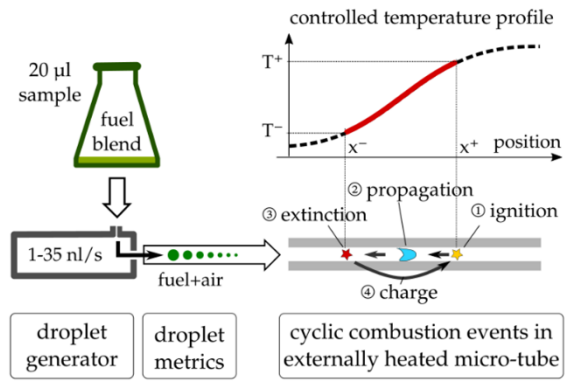
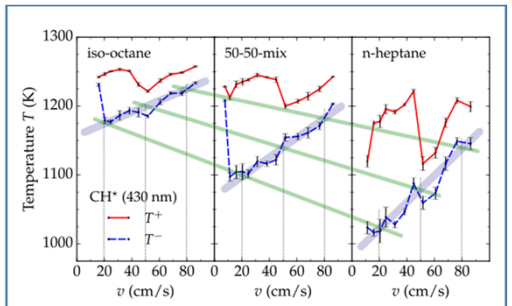
Micro-Liter Fuel Characterization and Property Prediction

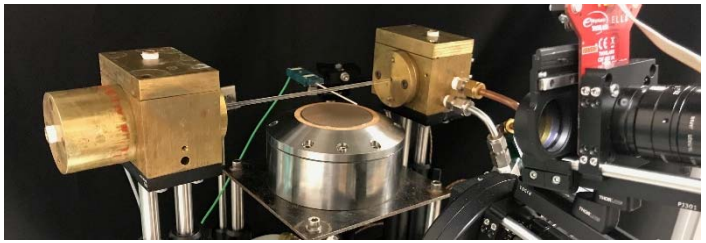
Goals

Characterize fuels with marginal sample volumes and high throughput, and develop associated models and metrics for predicted engine performance.





Proof of concept: extent swept by cyclic combustion events is a function of octane ratings (i.e. RON/MON).



Approach

Micro-combustion experiment exploits fuel-dependent combustion behavior to predict engine-relevant parameters (e.g. RON/MON, flame speed).

Potential Impact on Co-Optima Goals

Technology allows for early-stage down-selection of bio-derived fuels, and is a potential candidate for an updated standardized test method for fuel characterization.

Team Members

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