

**Cyber-Physical Modeling
LEAP Workshop
2021 November 2
Session 6 Dynamic Performance**



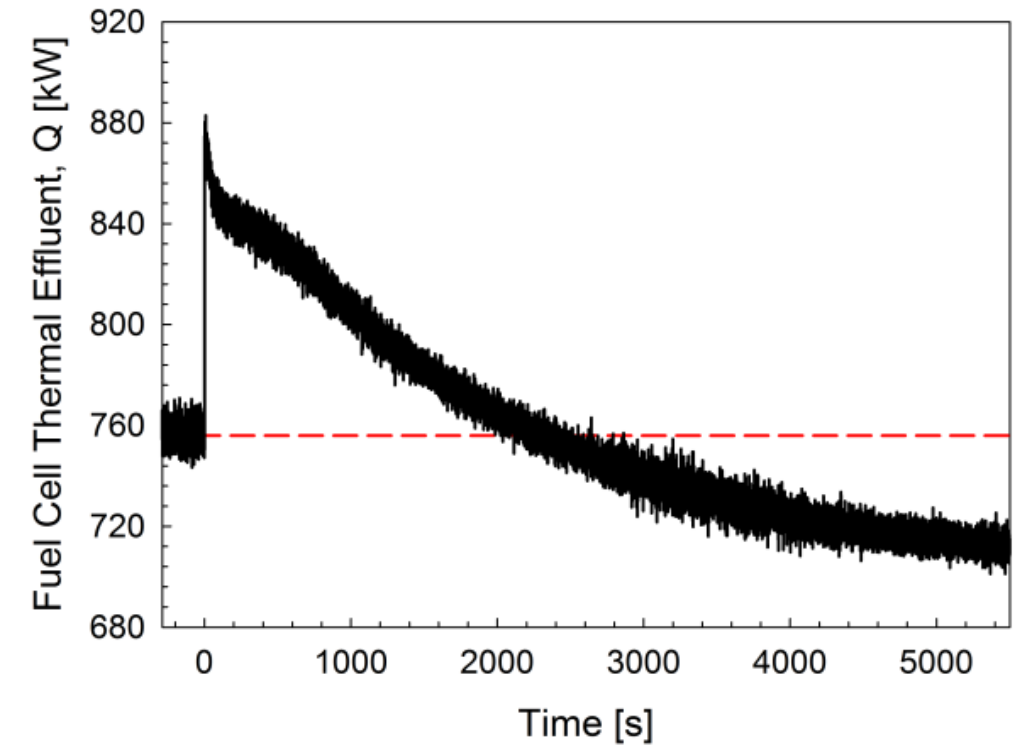
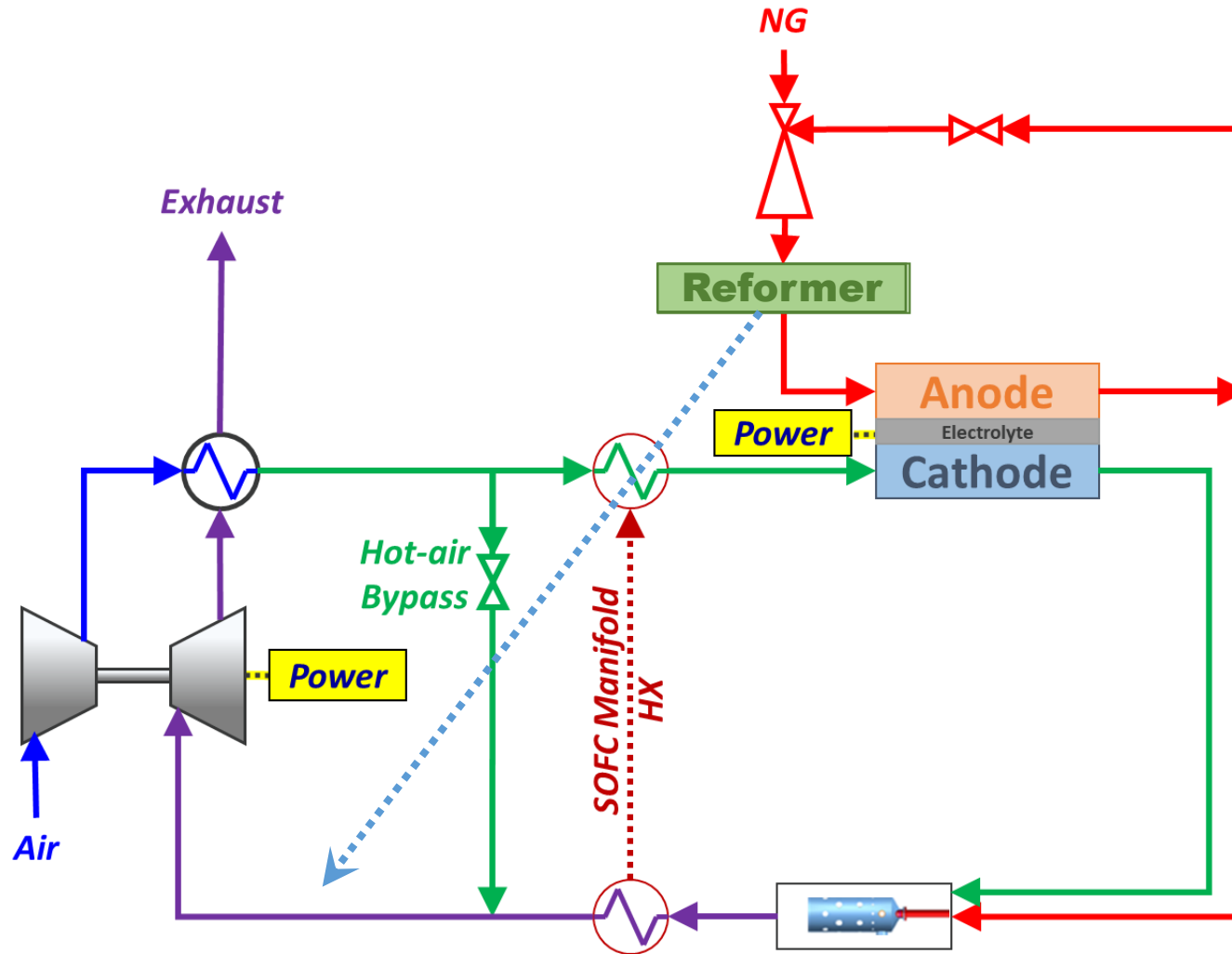
**Dr. David Tucker
U.S. DOE, NETL**

**Opportunities and
Challenges in SOFC/GT
Hybrid Dynamics**

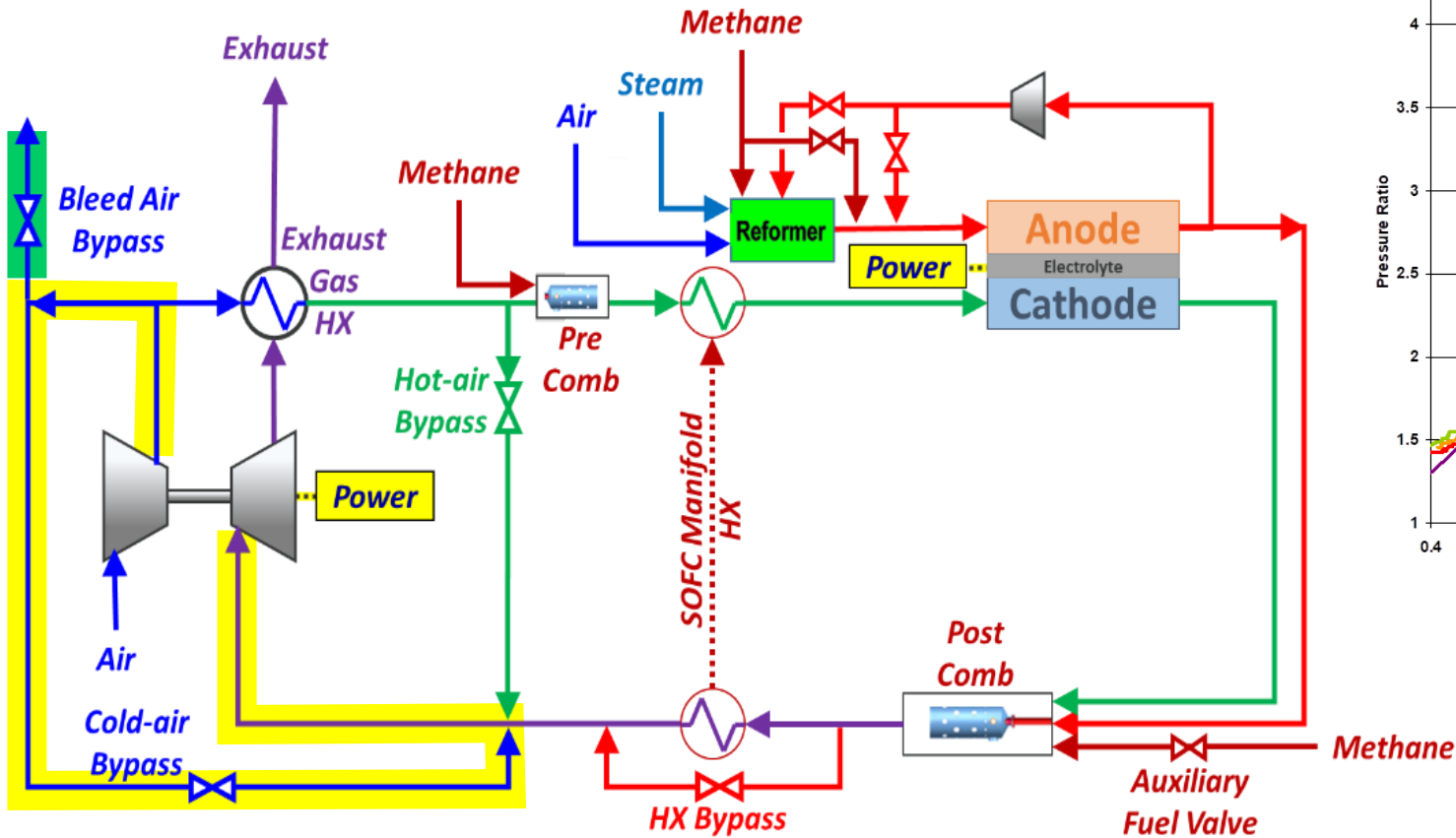
Solutions for Today | Options for Tomorrow



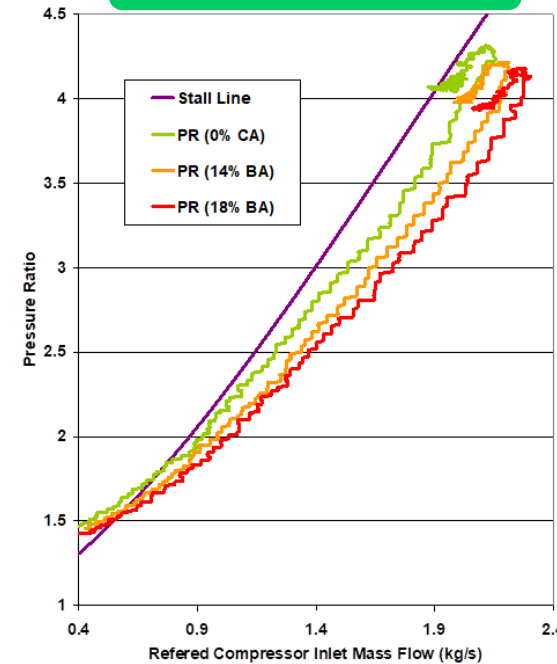
Fuel Composition Transients



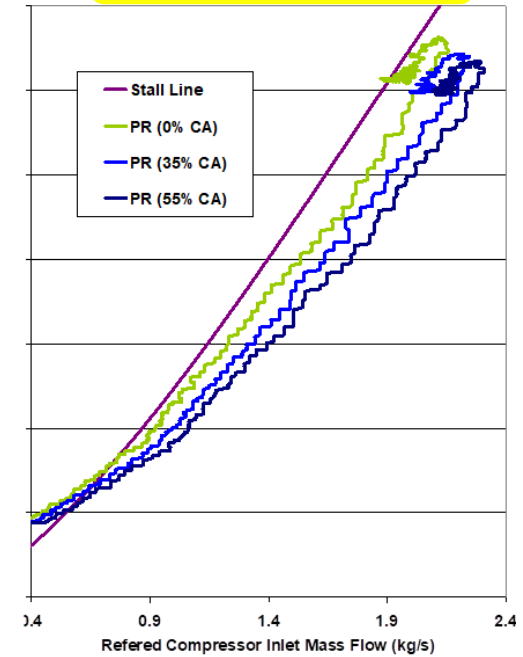
Compressor Surge and Stall



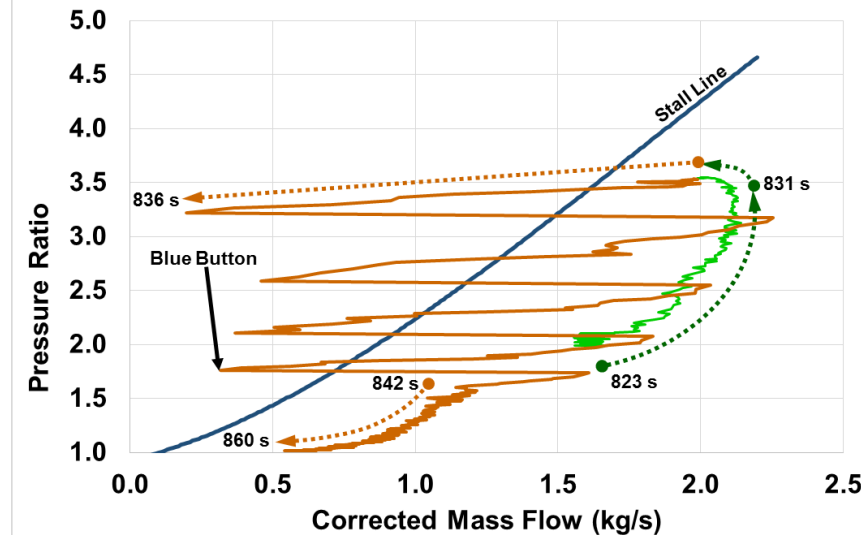
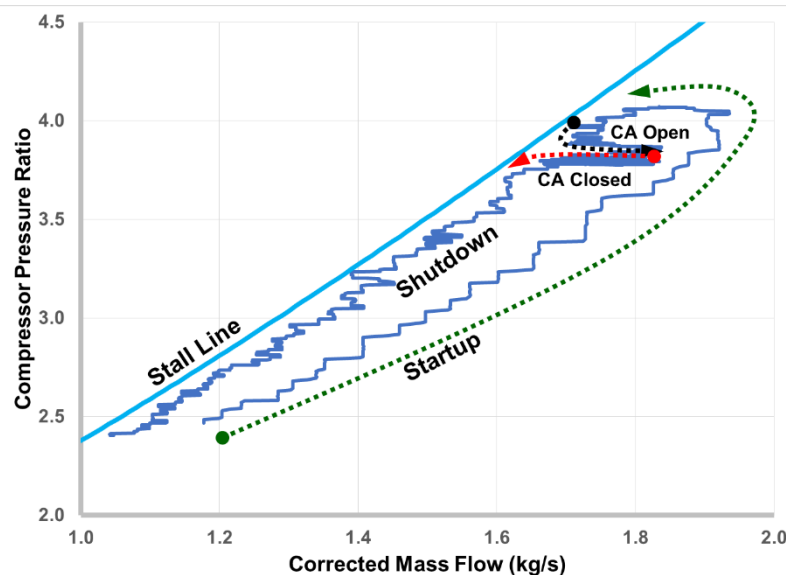
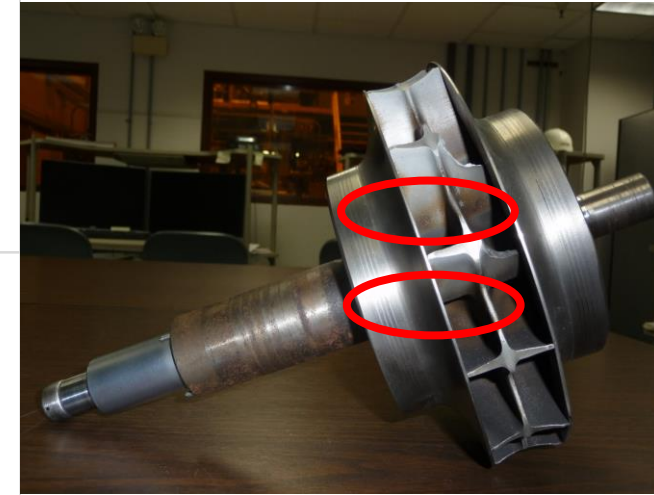
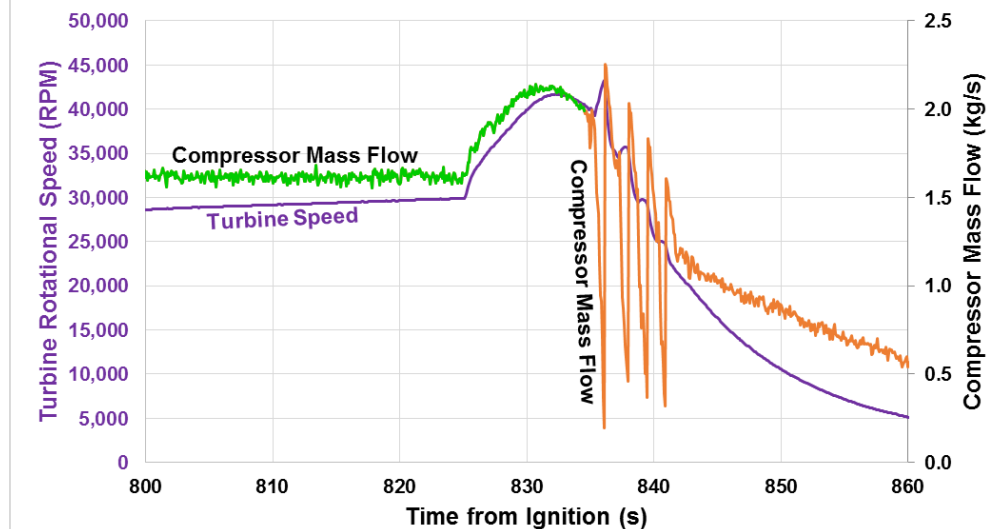
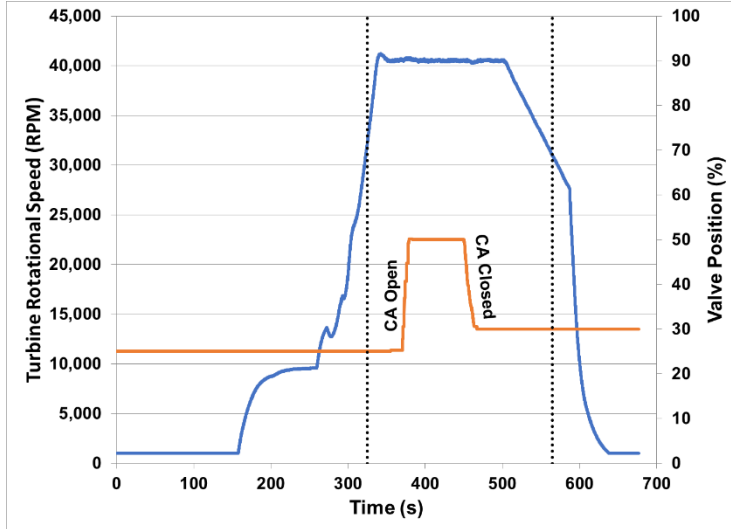
Bleed Air



Cold Air

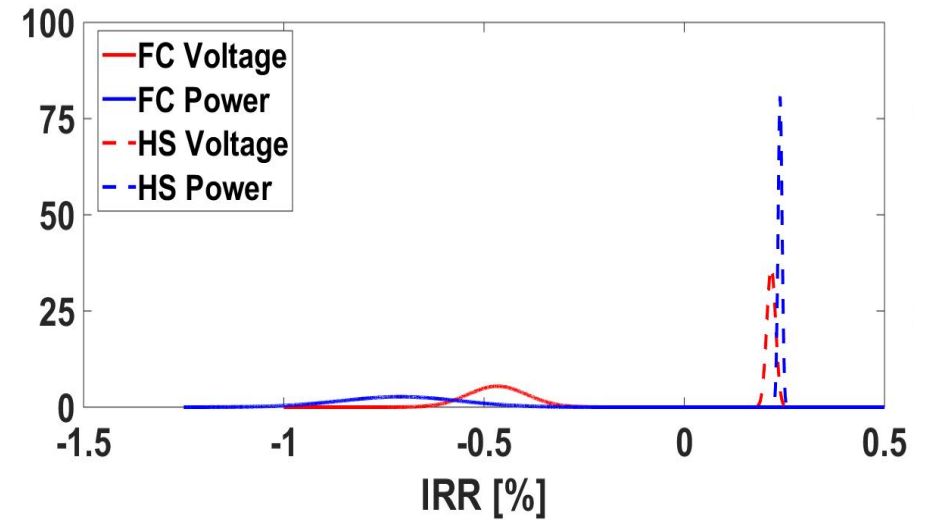
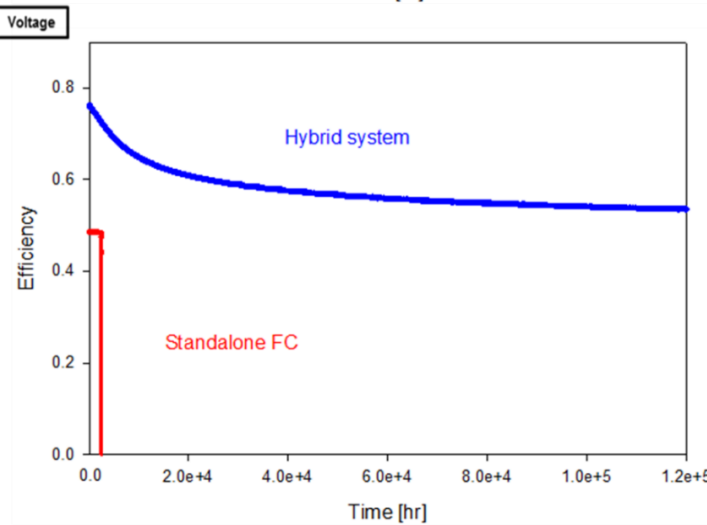
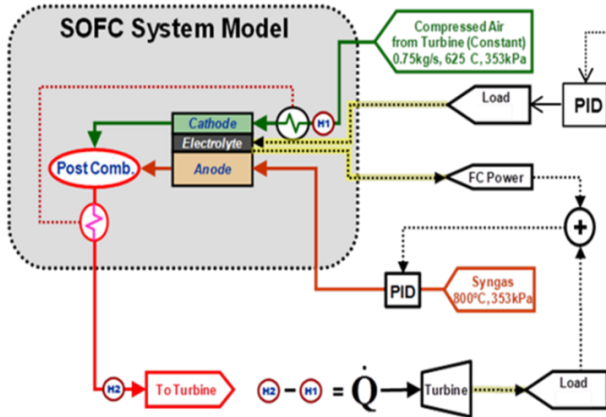
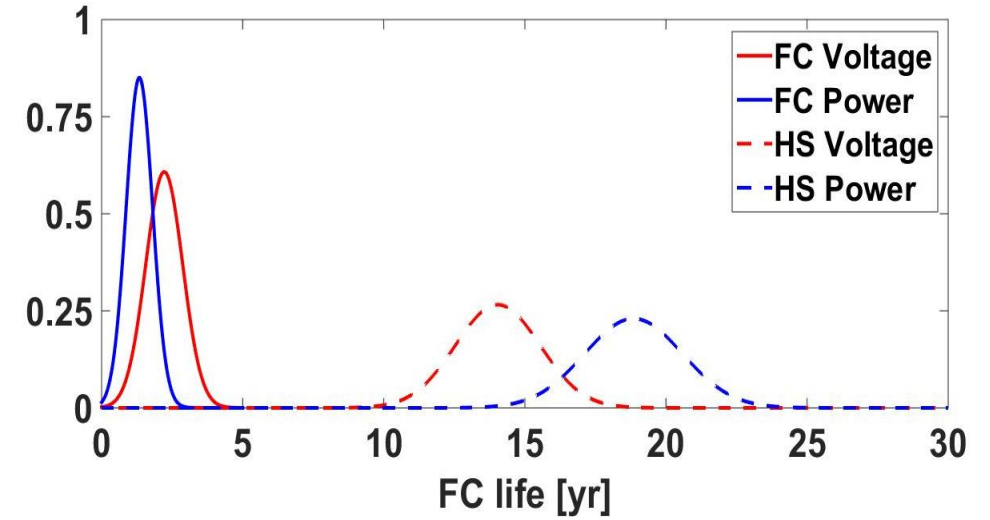
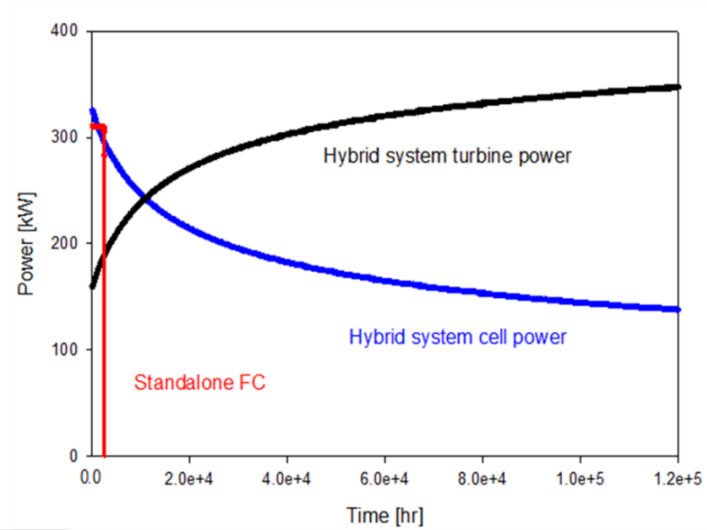
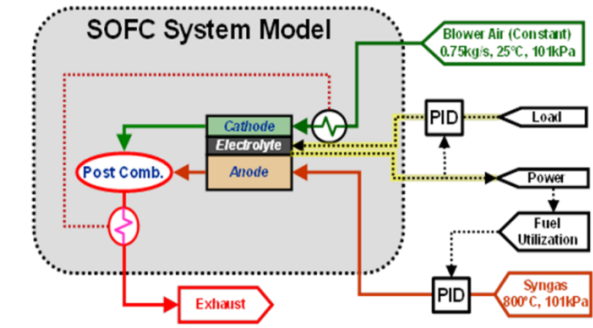


Compressor Surge and Stall



Degradation

Standalone fuel cell



10x SOFC Lifetime Increment

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Thank You

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