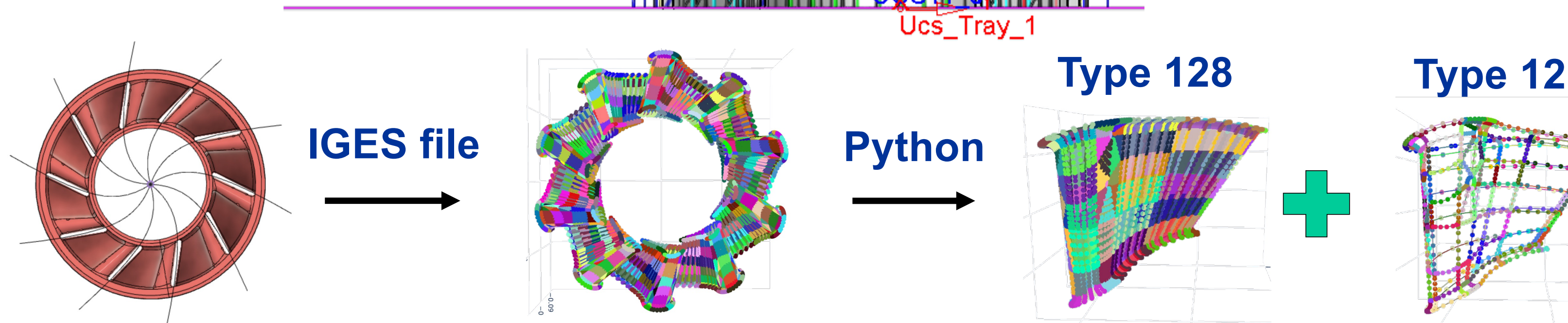
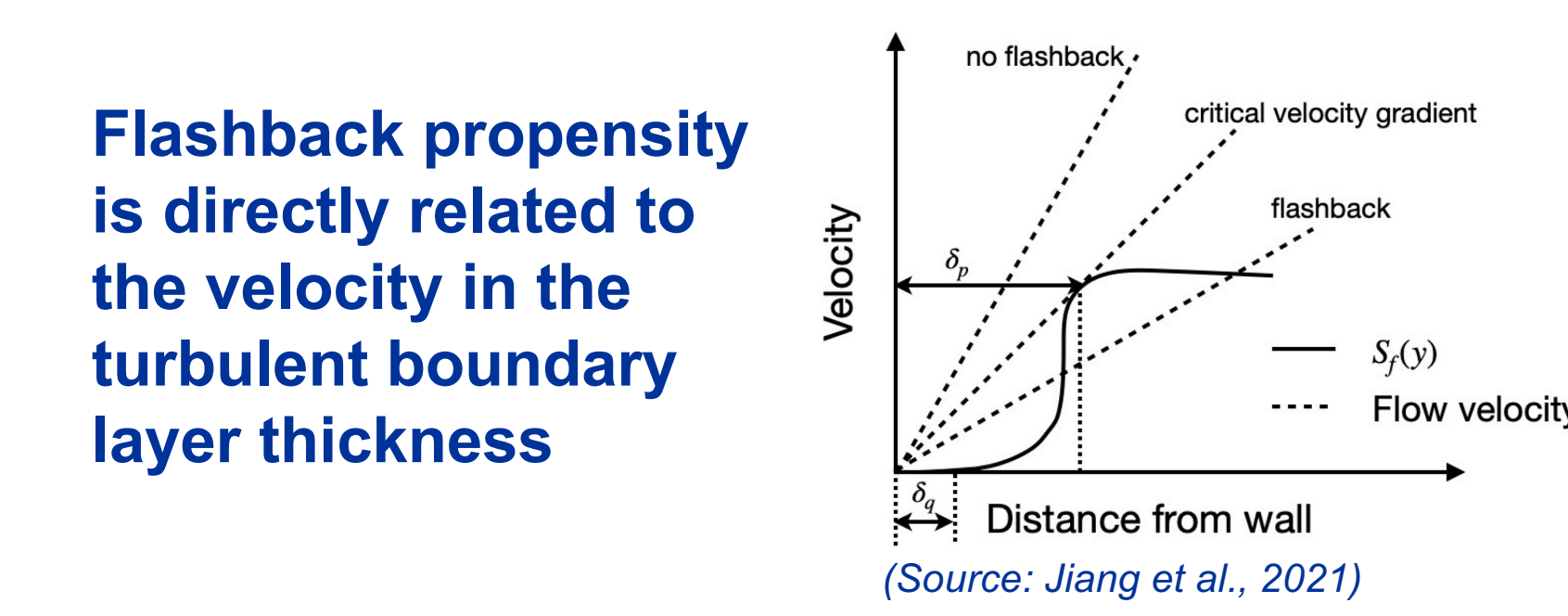
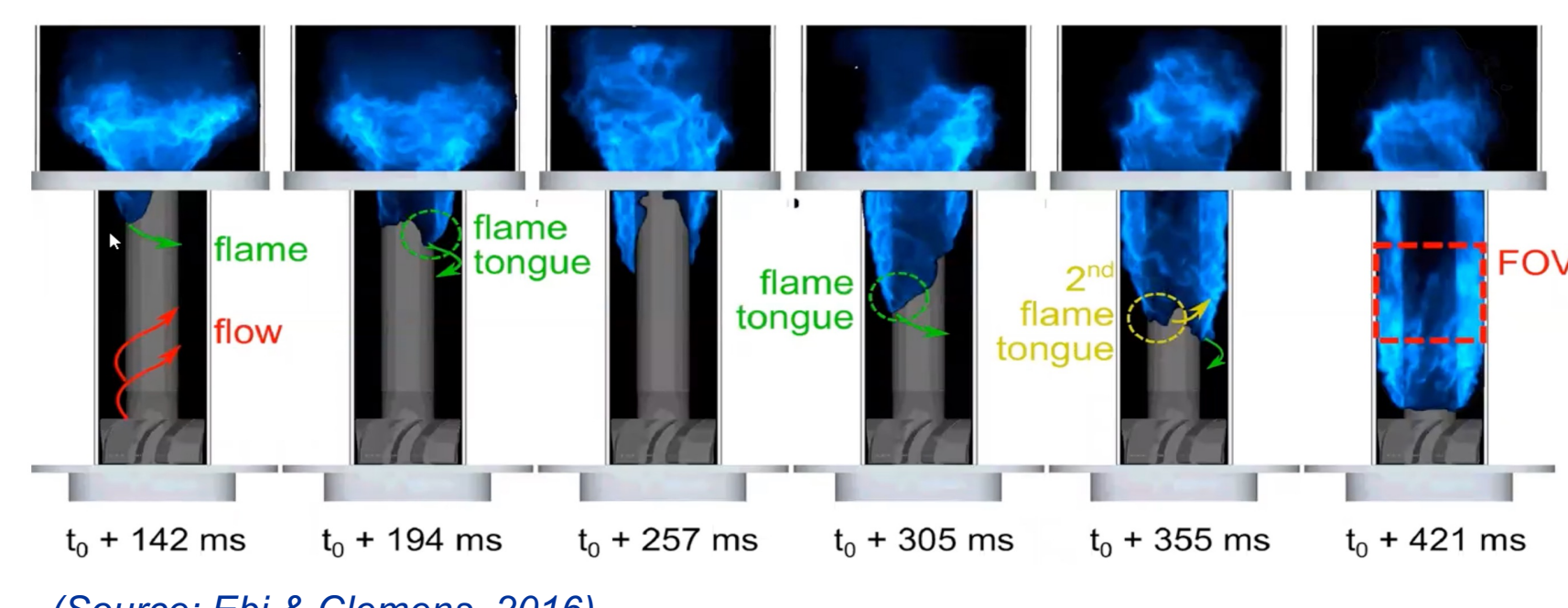
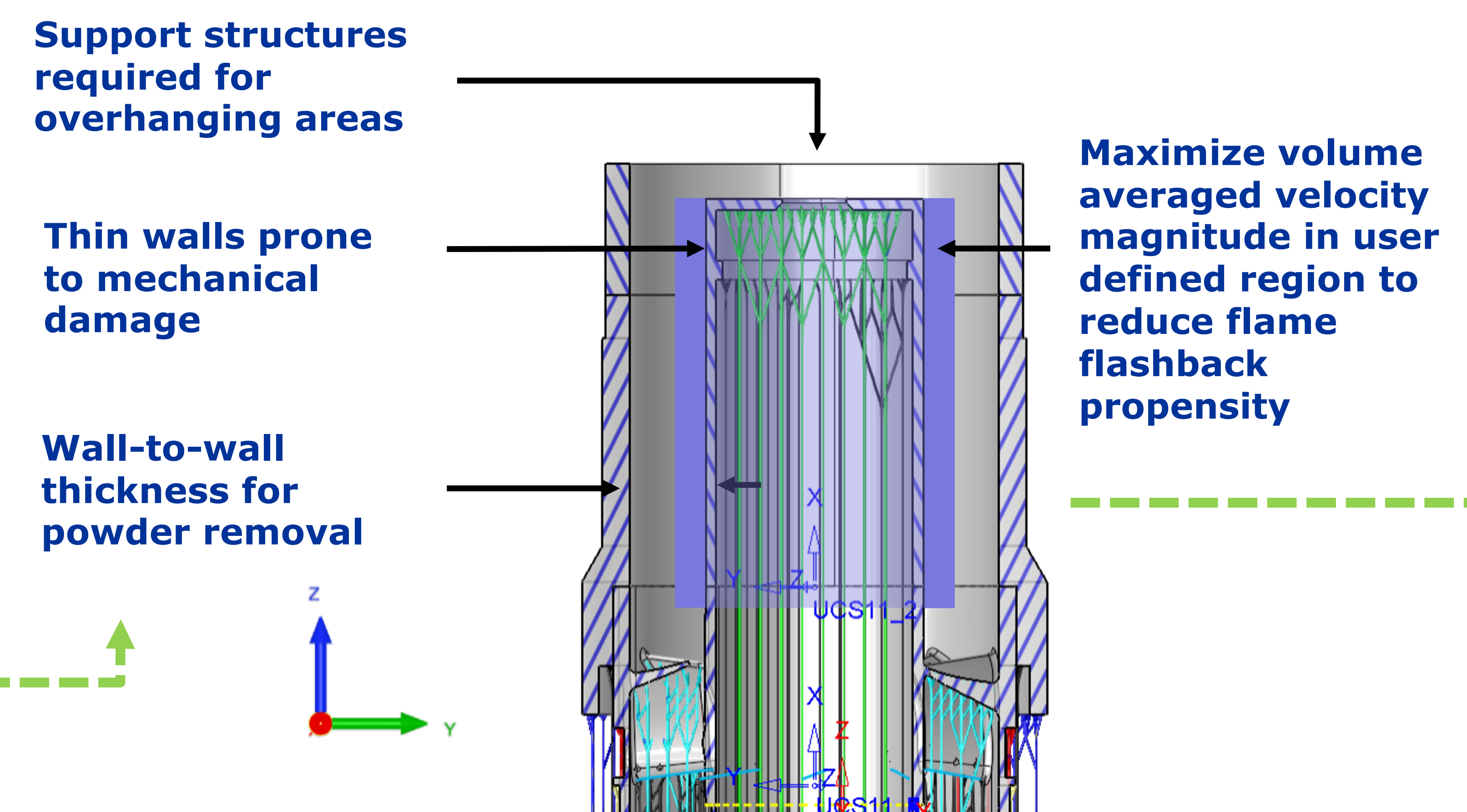
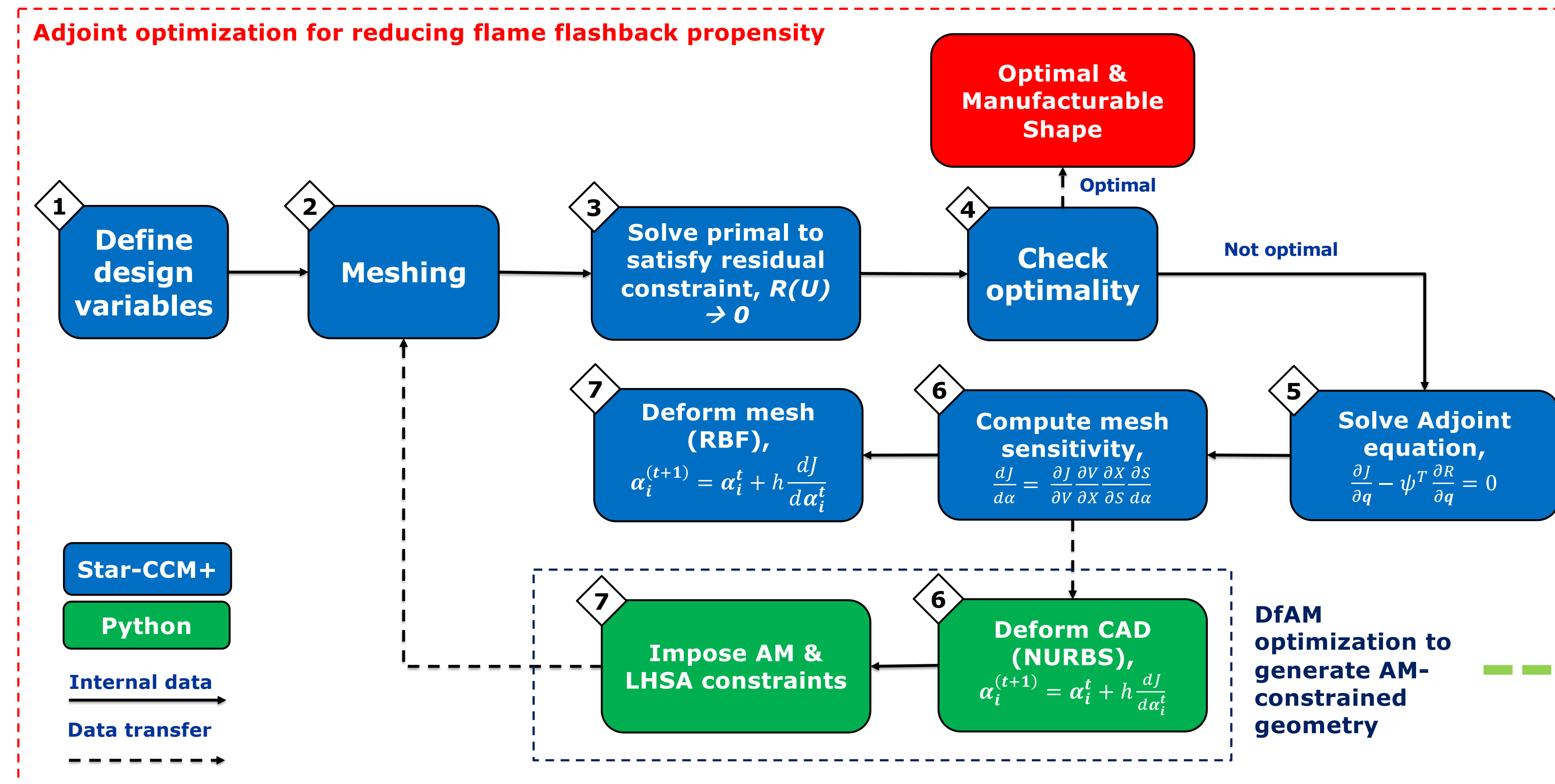


Incorporating L-PBF metal-AM constraints for adjoint shape optimization of novel fuel injector designs

Students: Sagar Jalui, Pratikshya Mohanty
PI: Dr. Jacqueline O'Connor, Dr. Guha Manogharan, Dr. Yuan Xuan
Project DE-FE12806463 | Program Manager: Mark Freeman
Industry Partners: Solar Turbines Inc | Engineers: Hanjie Lee, Michel Akiki, Dang Le

Aim: Developing a novel framework to ensure optimal fuel injector design is additively manufacturable using metal L-PBF



- Key takeaways:**
- Total change – 12.503% increase in vol avg vel mag
 - 9.32% change after 1st loop
 - 2.9% change in next 9 loops
 - Total run time ~20 hrs using 80 cores
 - Physics guided shape optimization

