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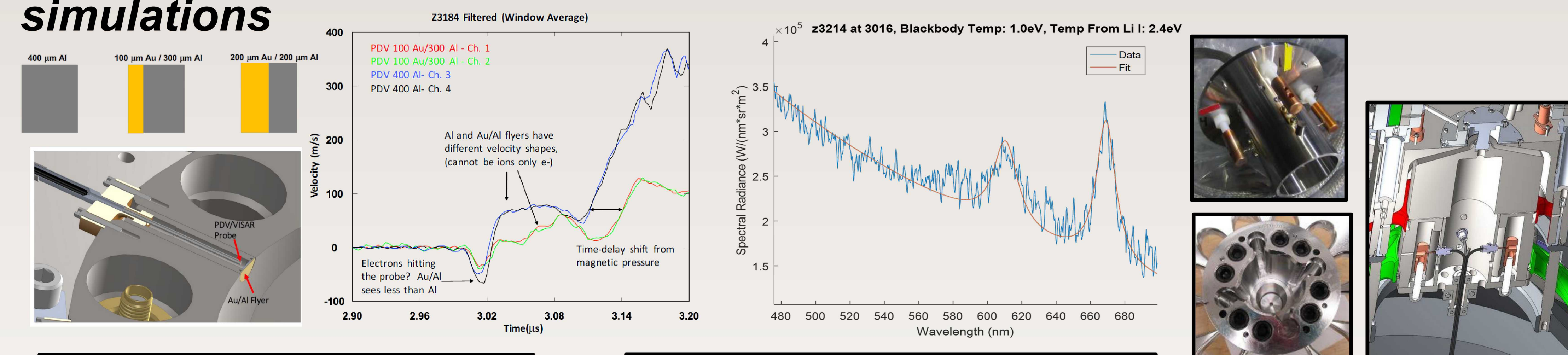


Recent Progress on Power Flow Diagnostic Capabilities Supporting Next-Generation Multi-Scale Plasma Physics Codes

George Laity (1683), Allen Robinson (1443), Michael Cuneo (1650), et al.

Power Flow Physics & Spectroscopy Team

Objective: improve our ability to diagnose the delivery of electrical energy from a pulsed power driver to a target, with an emphasis on providing validation data that can be used to benchmark models and simulations



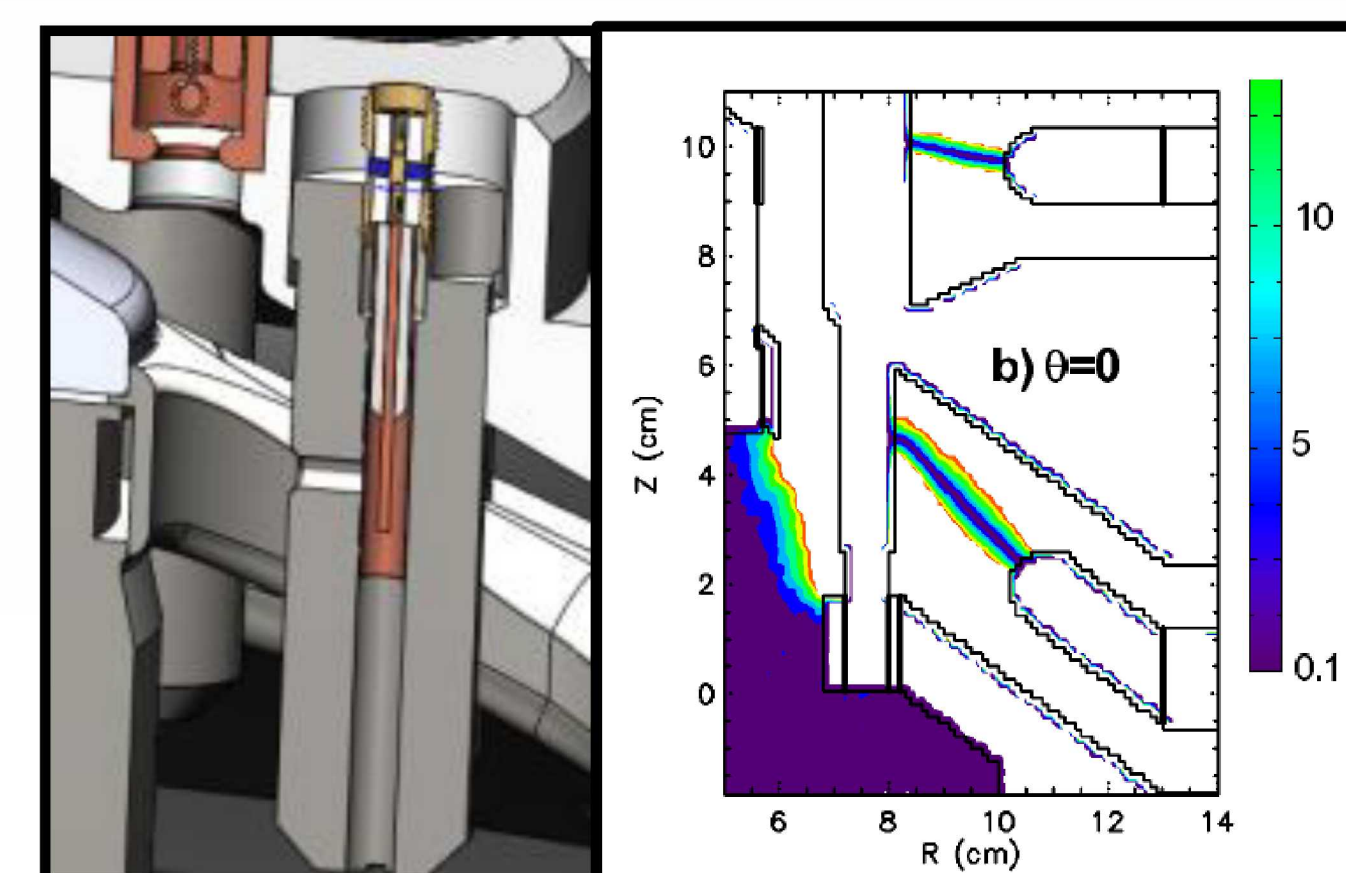
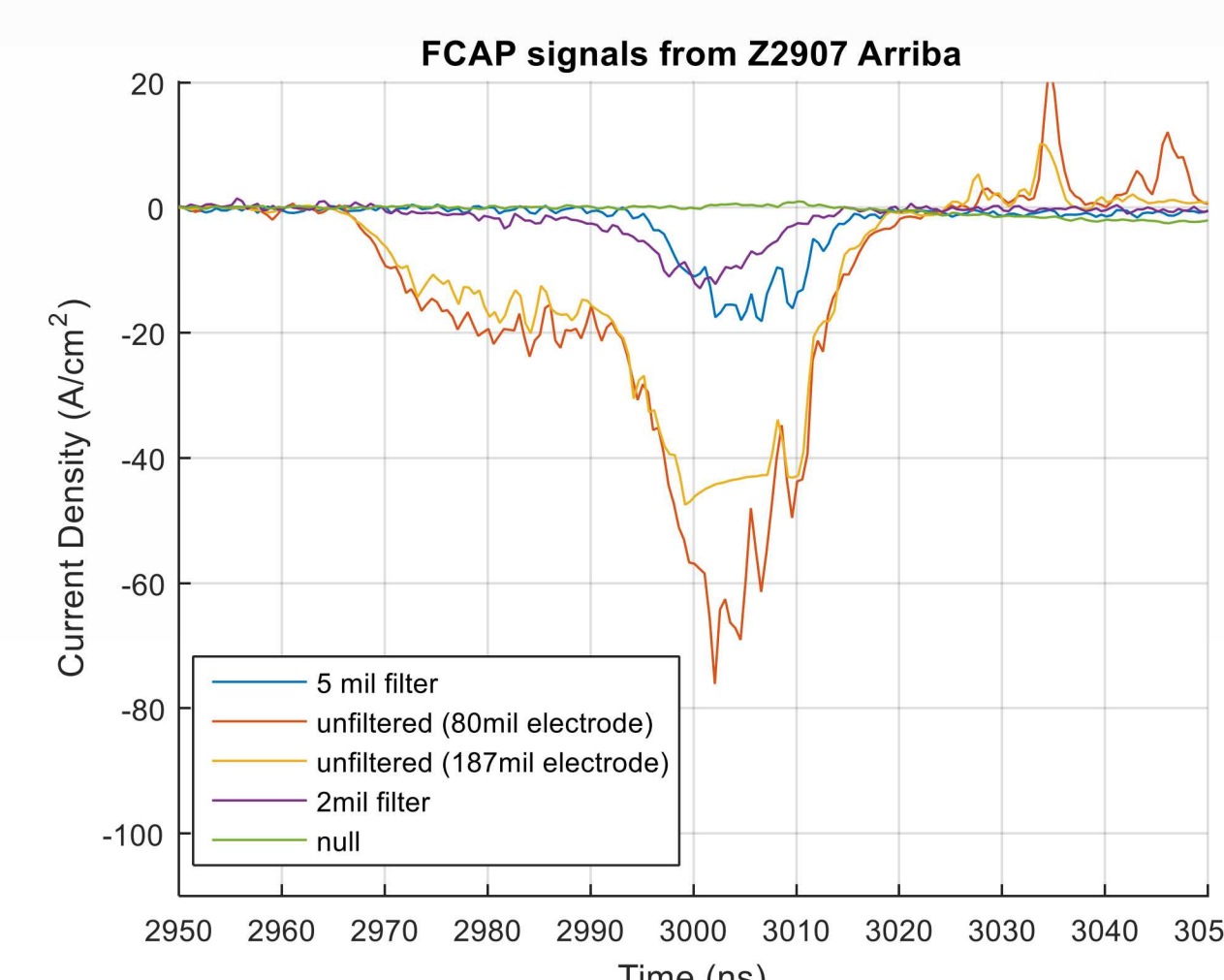
Mark Hess (1684), et al.
PDV/VISAR Particle Pressure Measurements
(Published in Applied Physics Letters, 2017)

Sonal Patel (1656), Mark Johnston (1656), et al.
Higher Resolution Li Spectroscopy in Z Convolute
(Supported by FY15-17 REHEDS-LDRD)

Tim Webb (1656), et al.
Cathode Ion Detectors on Z
(1st Deployment on Z in FY18)

Dan Dolan (1646), A. Porwitzky (1641), et al.
Chordal PDV – Plasma Density Interferometer
(Published in Journal of Applied Physics, 2018)

Derek Lamppa (5445), et al.
Faraday Cup in “Anode Post” (FCAP)
(time-resolved negative particle flux in convolute)



Plasma Physics Grand Challenge LDRD

Objective: develop advanced multi-scale computational plasma physics models and methods with enabling algorithms, fundamental surface physics theory, and supporting experimentation and validation framework resulting in significant improvement in computational efficiency and fidelity for plasma physics simulation

