学术报告：多维光学检测：应用范围的机理性分析
报告人：马林 博士
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Multidimensional optical diagnostics: fundamental considerations of capabilities and limitations

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EDUCATION EXPERIENCE
Ph.D., Stanford University, 2006, Mechanical Engineering
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Virginia Tech, 2011 – present, Associate Professor
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Lin Ma is an Associate Fellow of the AIAA, and member of the OSA and SAE. He was a recipient of the NSF CAREER award (2009) for his project entitled "Resolving Turbulence-Chemistry Interaction Using Novel Laser Diagnostics".

Research Topics:

Multidimensional tomographic diagnostics

This research aims at obtaining three-dimensional (3D) imaging measurements in turbulent flames at kHz rate based on tomographic chemiluminescence (TC) and other tomographic techniques. Such measurement capability has been long desired to resolve the inherent 3D spatial structures and temporal dynamics of turbulent flames. In this work, multiple high speed cameras were employed to simultaneously record projection measurements of chemiluminescence emissions of turbulent flames and flows at multi-kHz. These projection measurements were then used as the inputs for a tomography inversion algorithm to yield the 3D instantaneous spatial structures of the flames and flows in a measurement region of ~10×10×10 cm.