ICSC 2019

Core Competence Enhanced by MBD

IDAJ CAE Solution Conference

CONVERGE在柴油机开发中的应用

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技术能力

CONVERGE

三维燃烧

- 燃烧室优化
- 喷油器选型
- 燃烧系统布置
- 油束落点分析
- 喷射策略研究

三维流动

- 气道评估
- 管路设计

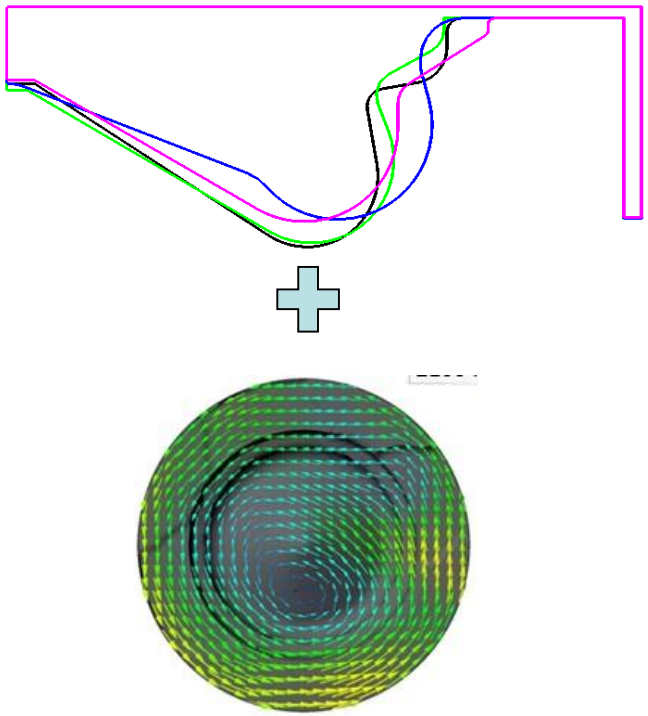
CAE热边界

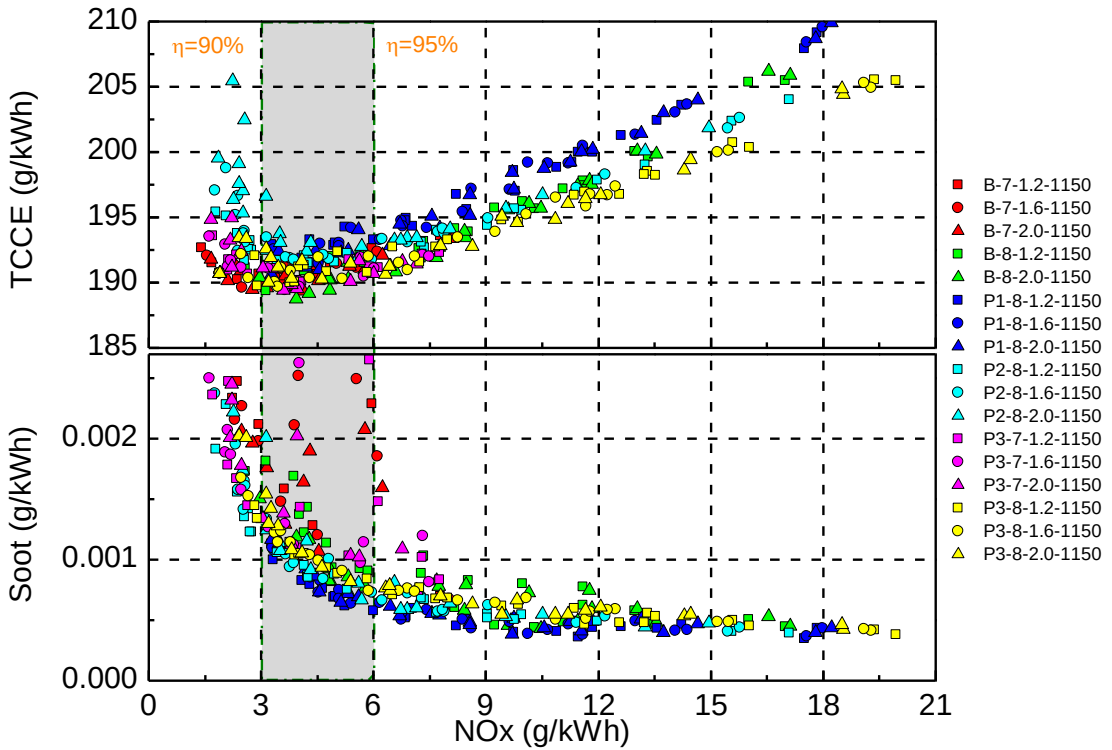
参数寻优

燃烧室*k*系数
压缩比 涡流比
喷油器流量 孔数 夹角
EGR率 空燃比
爆压 轨压 提前角
燃烧噪声
热负荷

技术能力

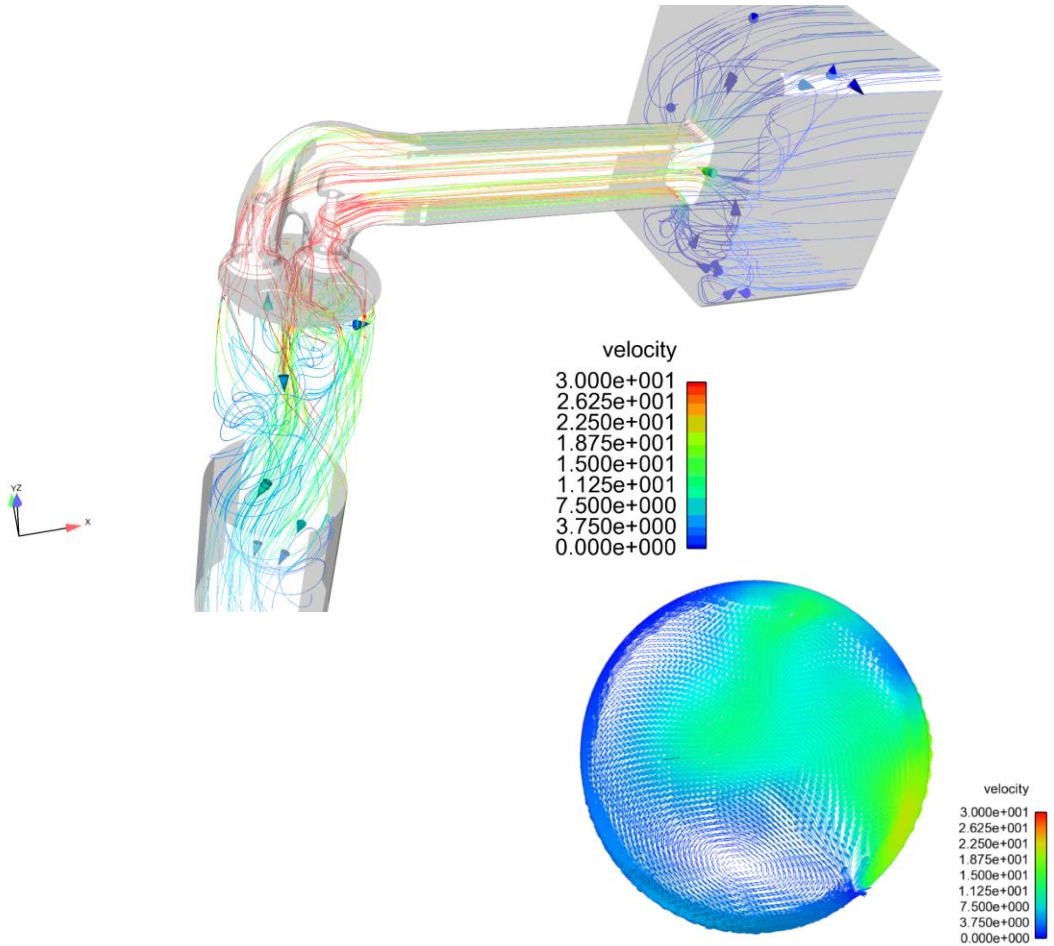
油气室匹配

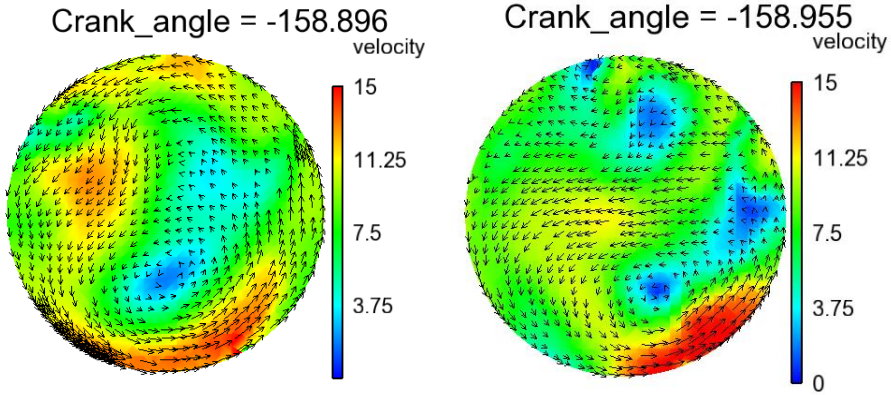


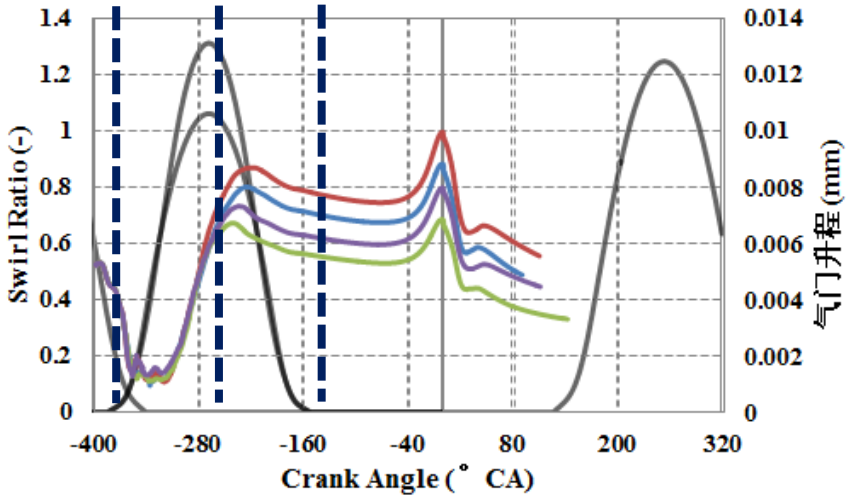


技术能力

气道设计

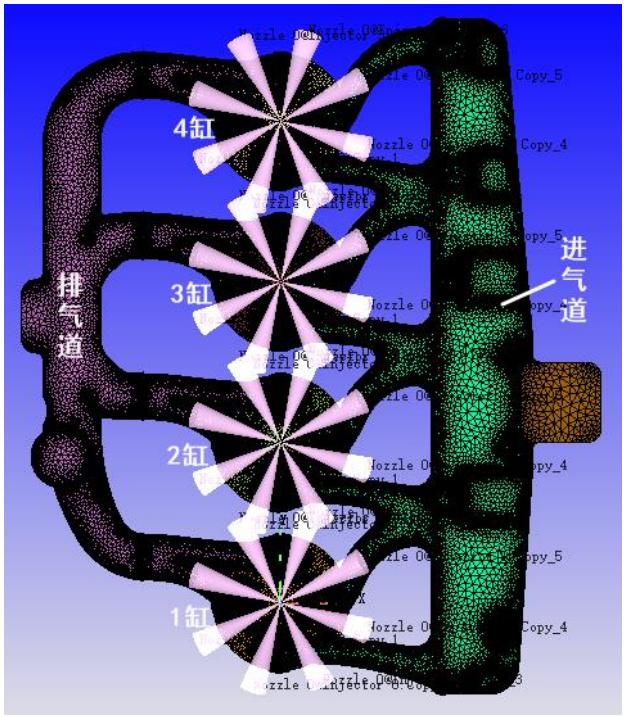


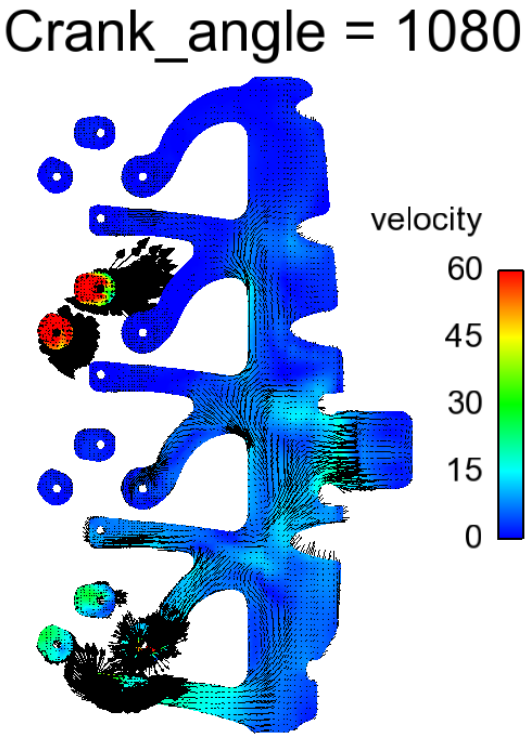


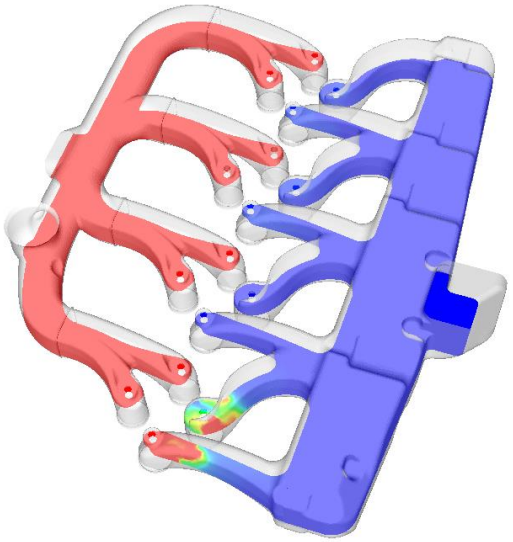


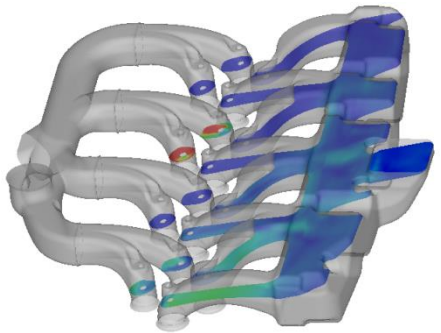
技术能力

多缸联动



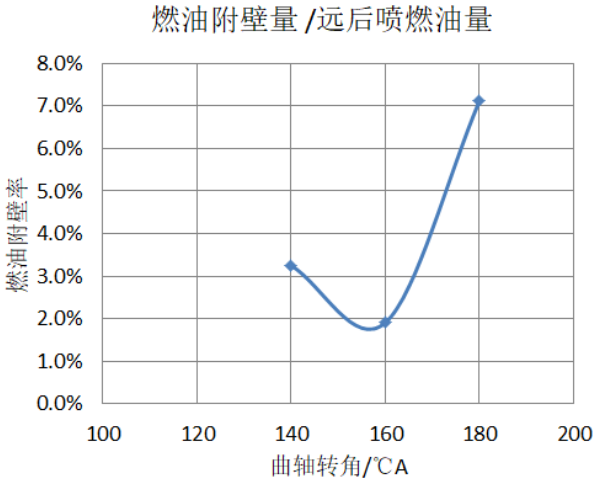


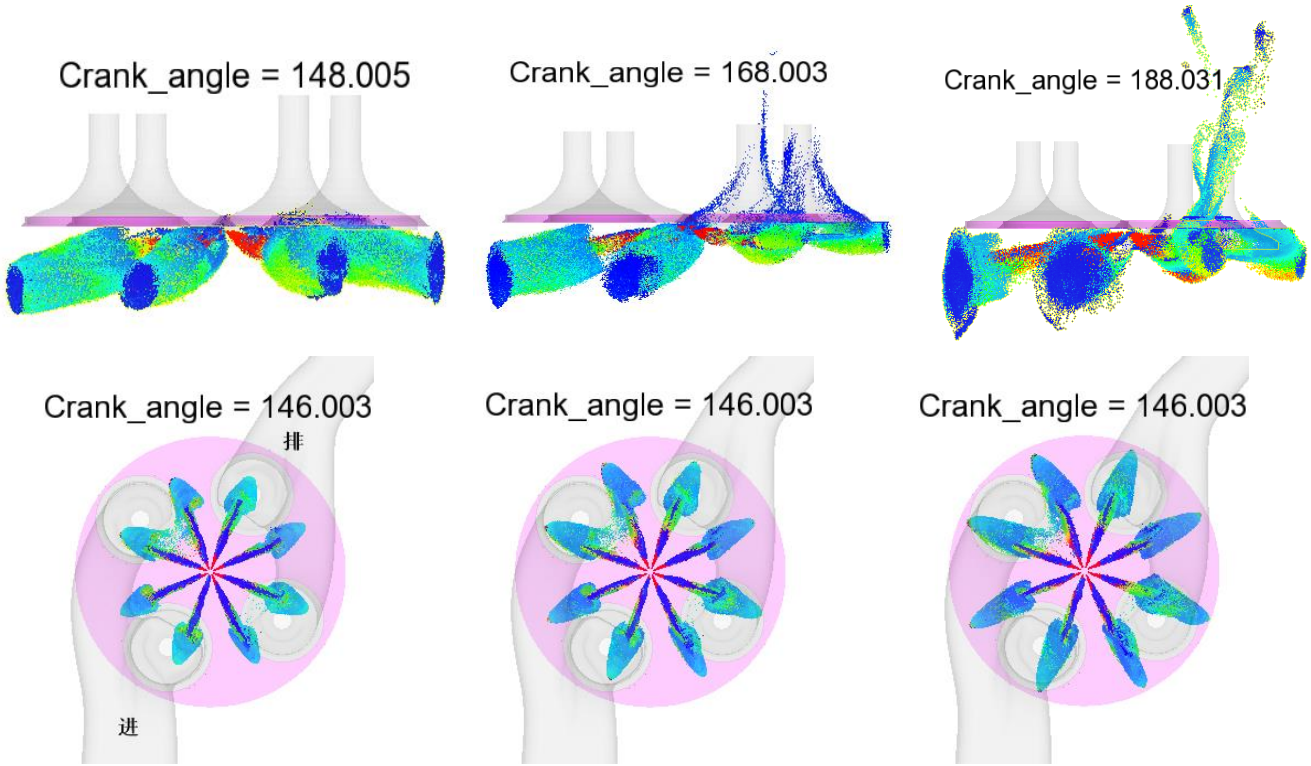




技术能力

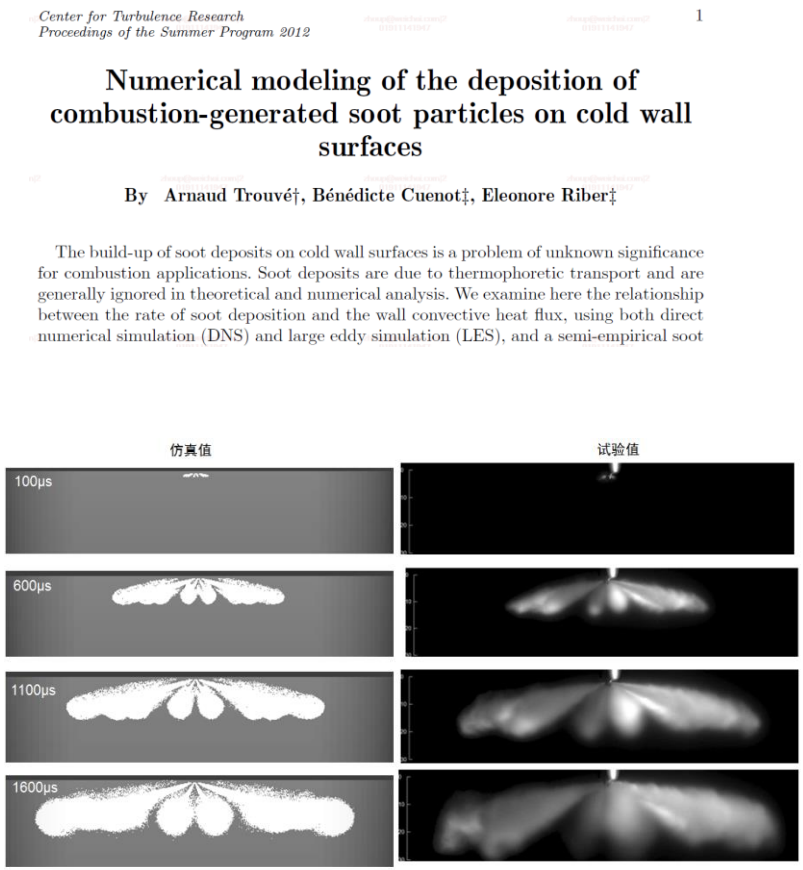
热管理





技术能力

机油含碳



Center for Turbulence Research
Proceedings of the Summer Program 2012

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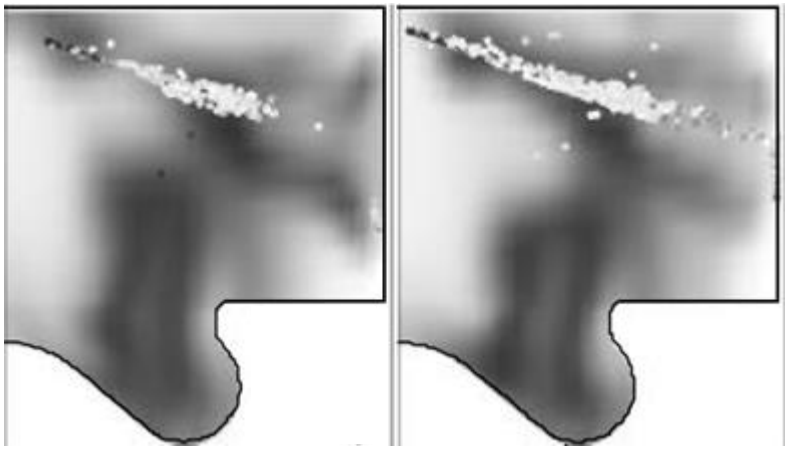
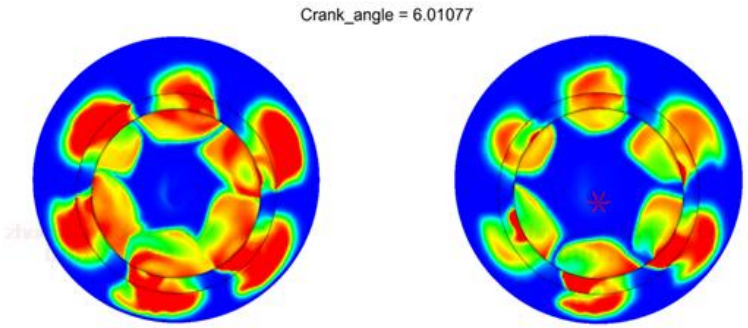
Numerical modeling of the deposition of combustion-generated soot particles on cold wall surfaces

By Arnaud Trouvé†, Bénédicte Cuenot‡, Eleonore Riber‡

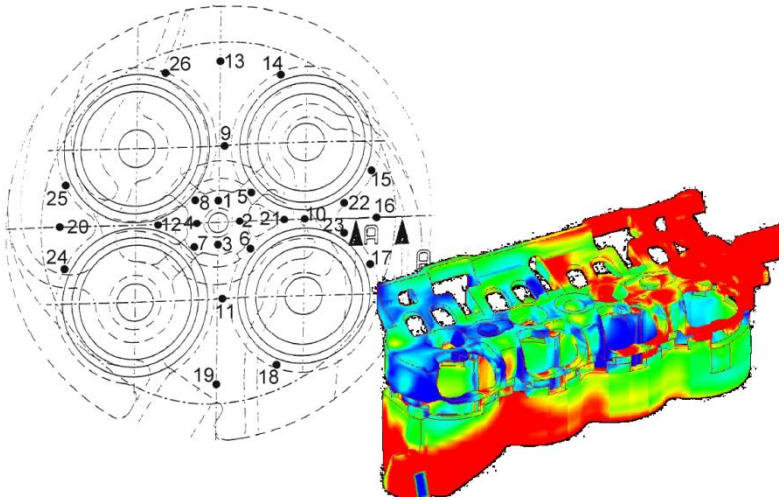
The build-up of soot deposits on cold wall surfaces is a problem of unknown significance for combustion applications. Soot deposits are due to thermophoretic transport and are generally ignored in theoretical and numerical analysis. We examine here the relationship between the rate of soot deposition and the wall convective heat flux, using both direct numerical simulation (DNS) and large eddy simulation (LES), and a semi-empirical soot

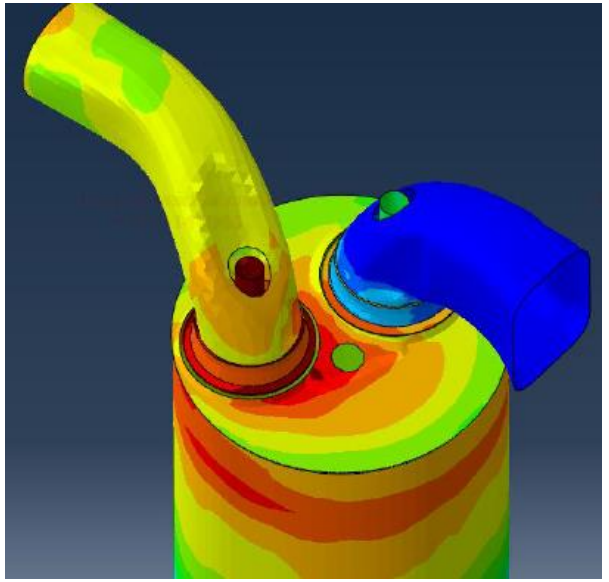


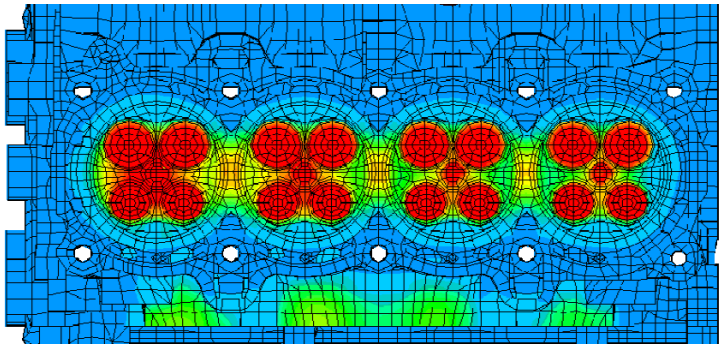


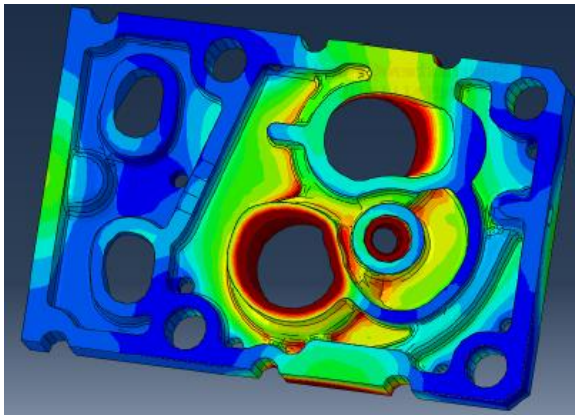
技术能力

- **CFD_FEA耦合**









总结

CONVERGE仿真工具应用的优势

- 无实物条件下的虚拟开发
- 成本低、周期短，提升开发成功率
- 排出试验过程的干扰项
- 单参数解耦研究
- 实现部分试验无法覆盖工况
- 获取参数的时间、空间分布

感谢您的聆听！