

A Ray-Tracing Technique for Reentry Plasmas

Annual Metro Meeting, October 16th, 2017

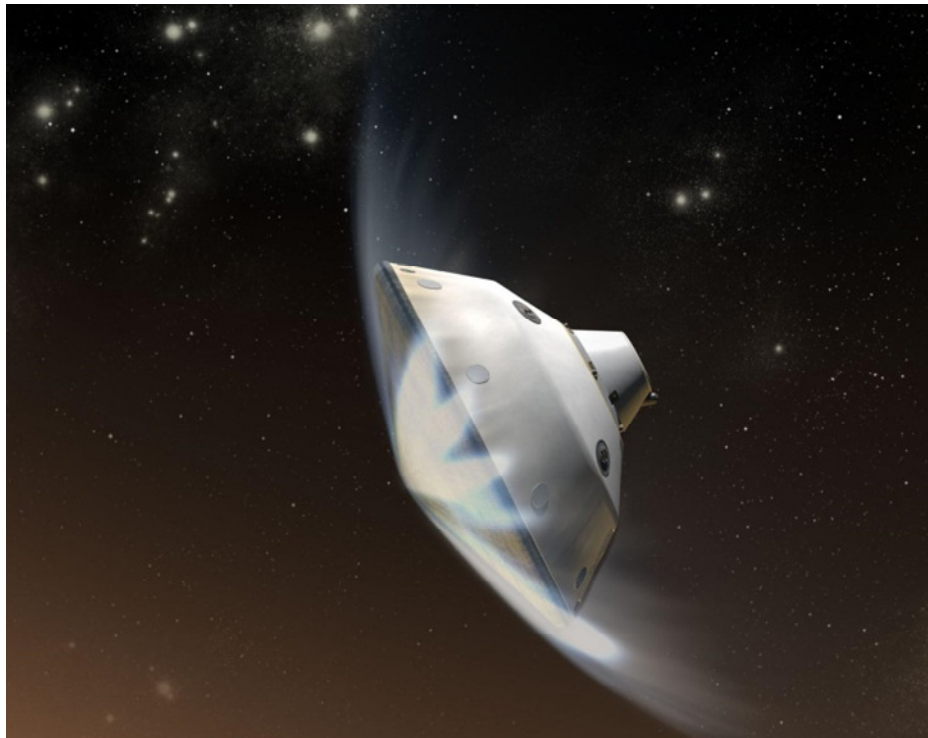
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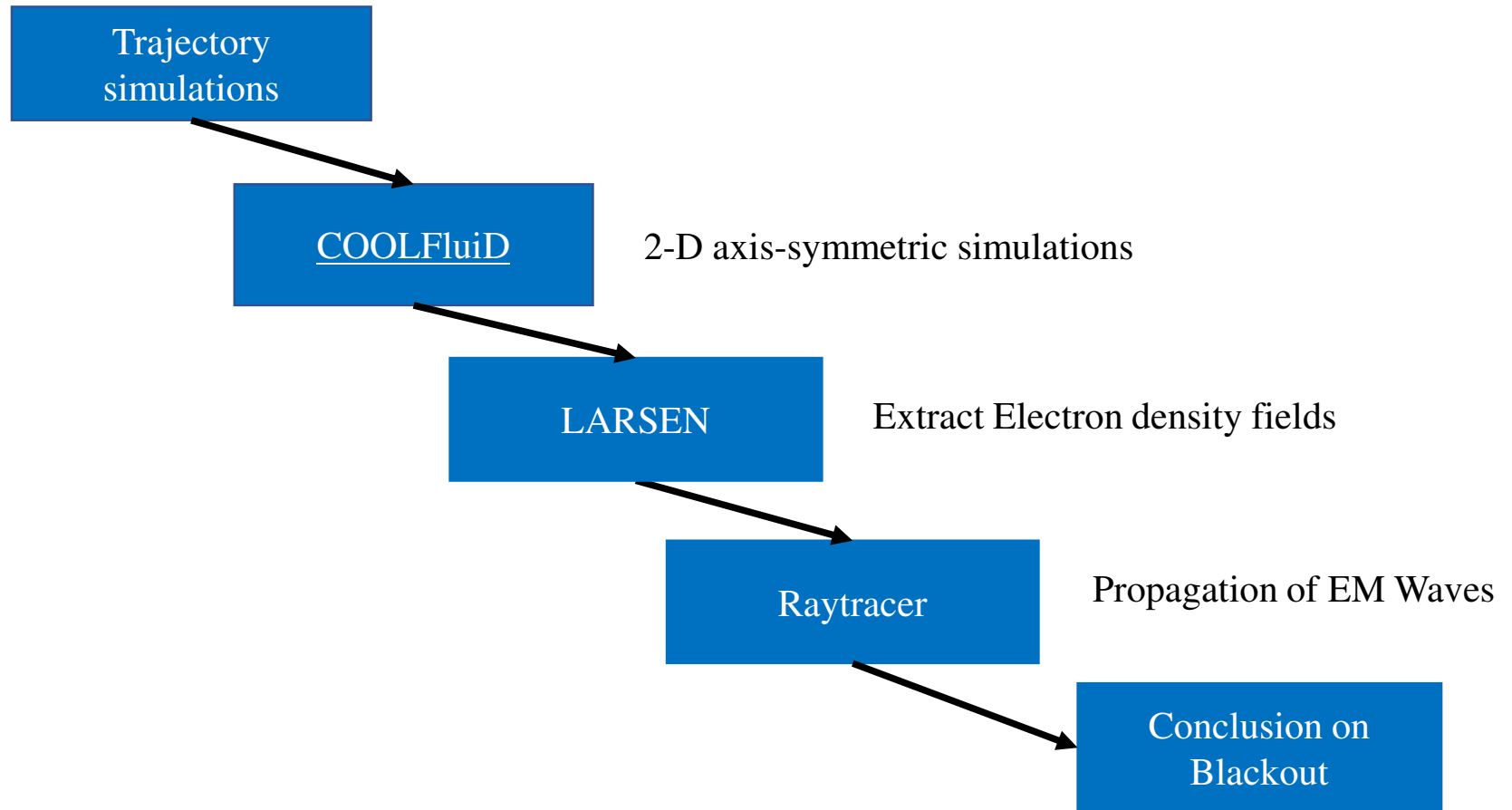
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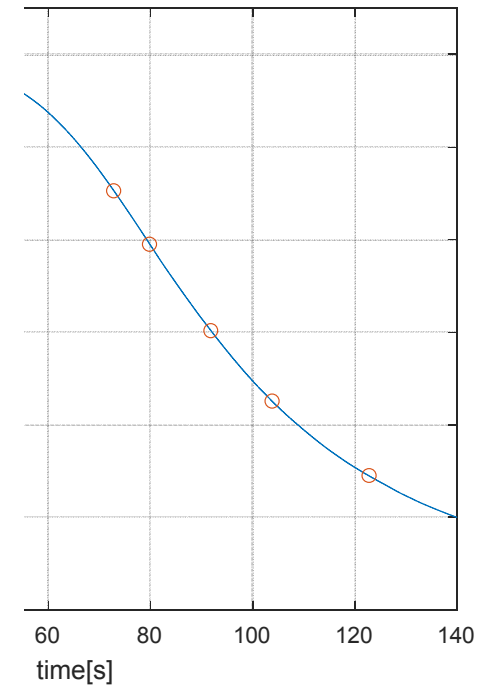
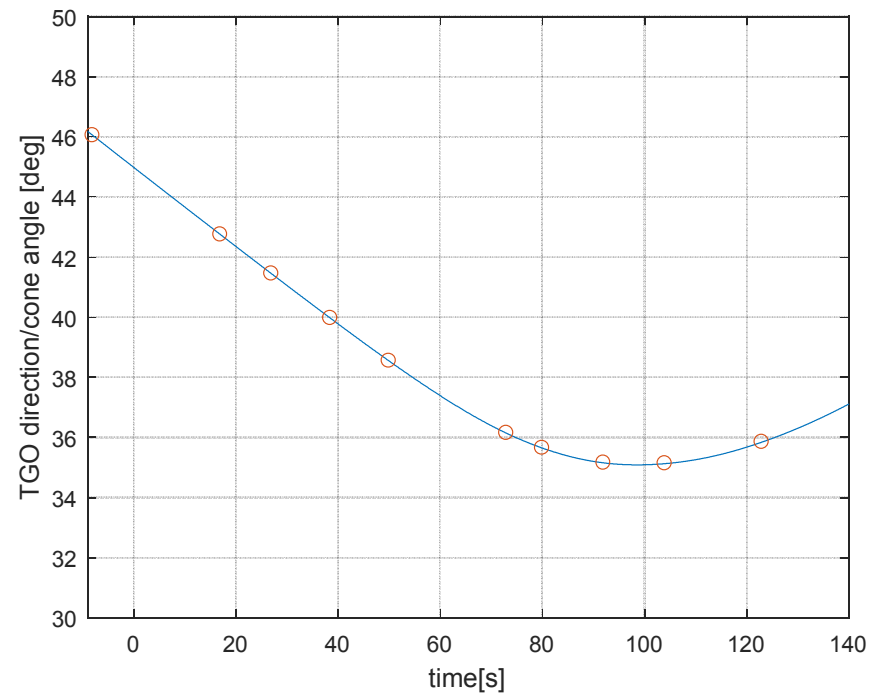
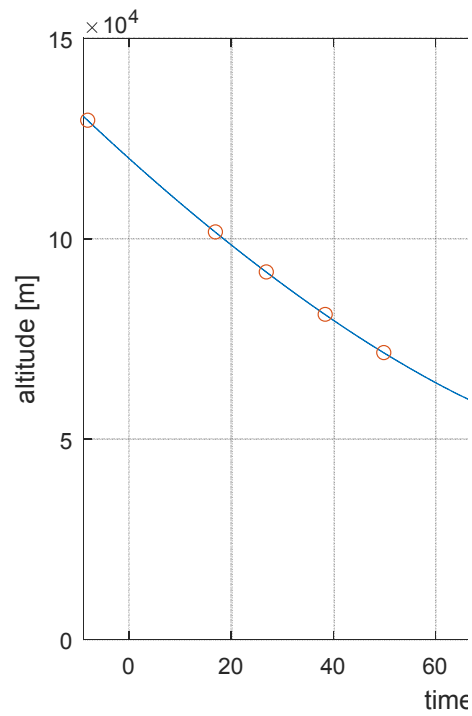
Problem Description & Motivation



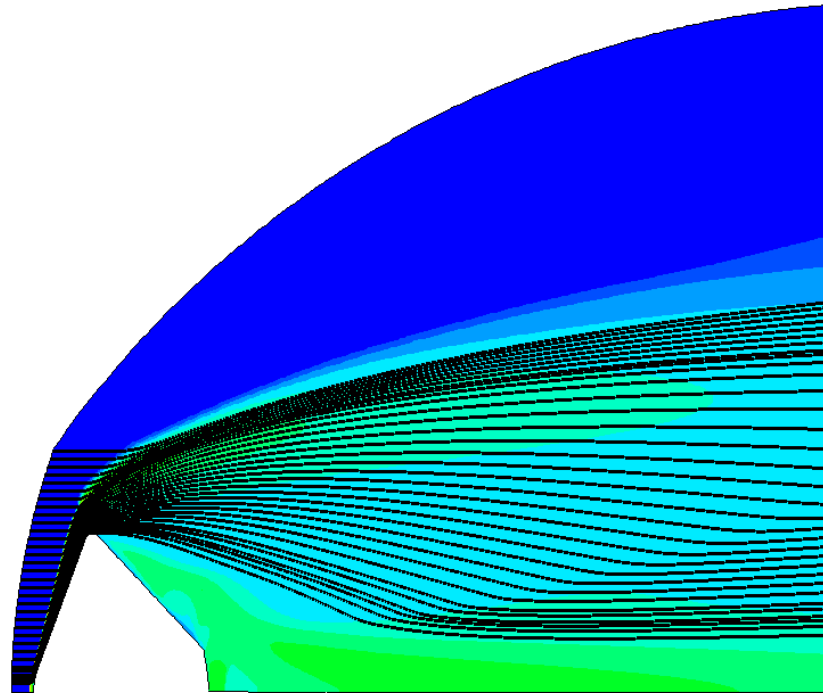
Methodology & Approach



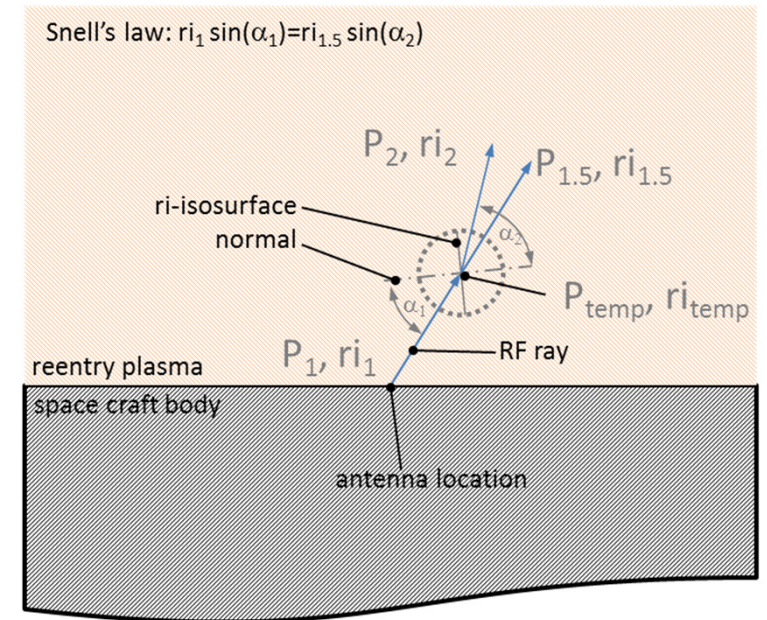
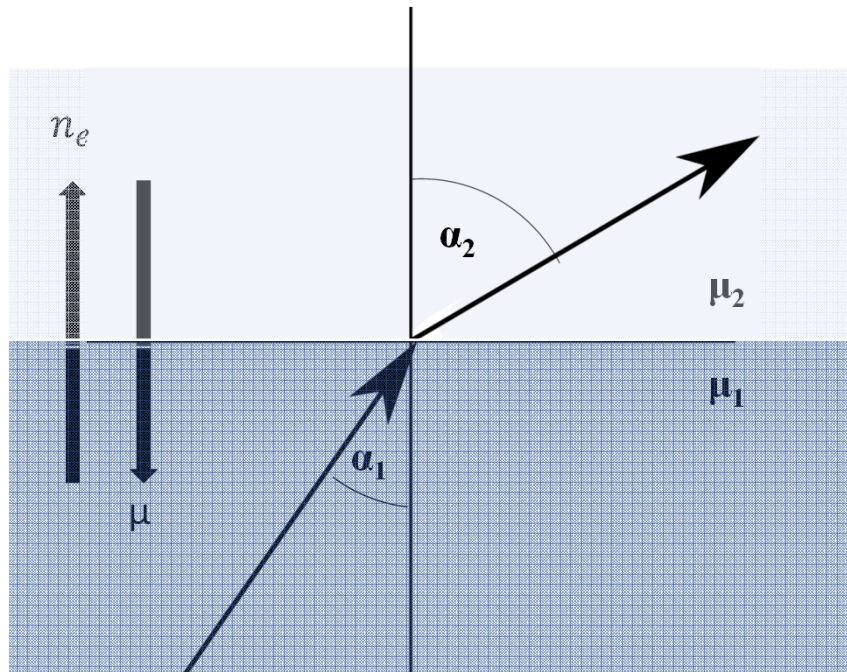
Trajectory



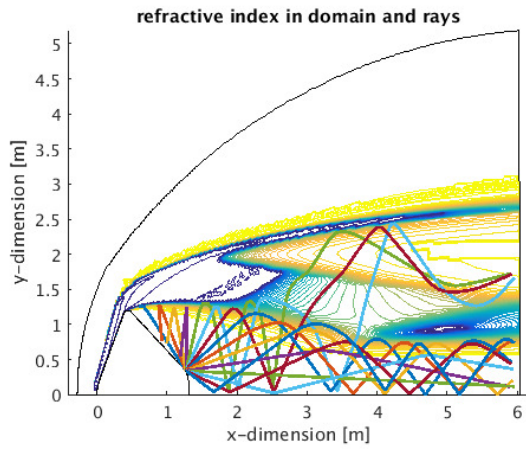
CoolFluid & LARSEN



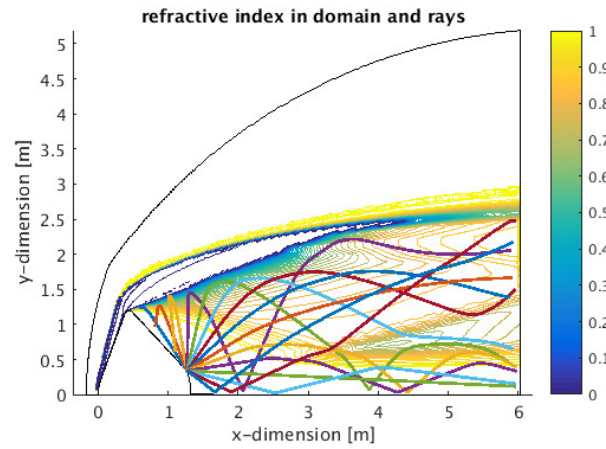
BlackOut RayTracer [BORT]



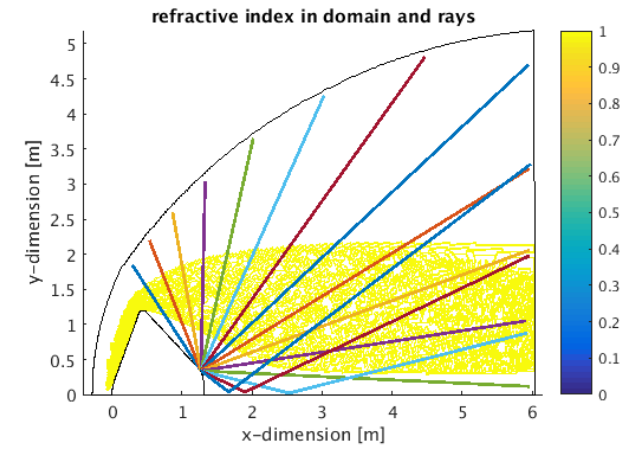
Results



t=50s

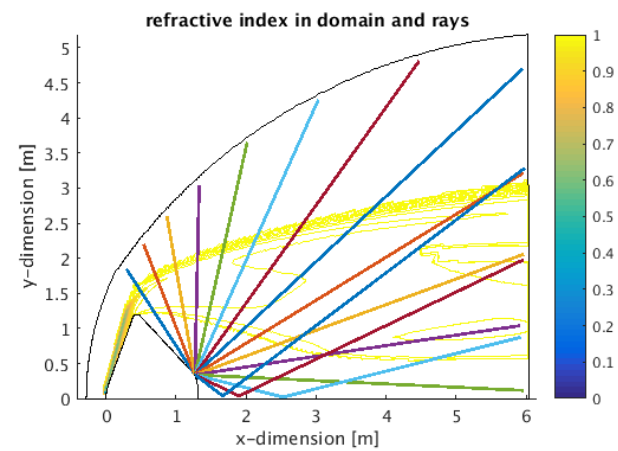
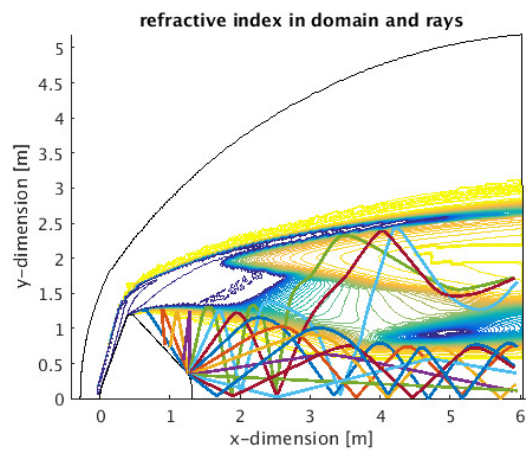


t=73s



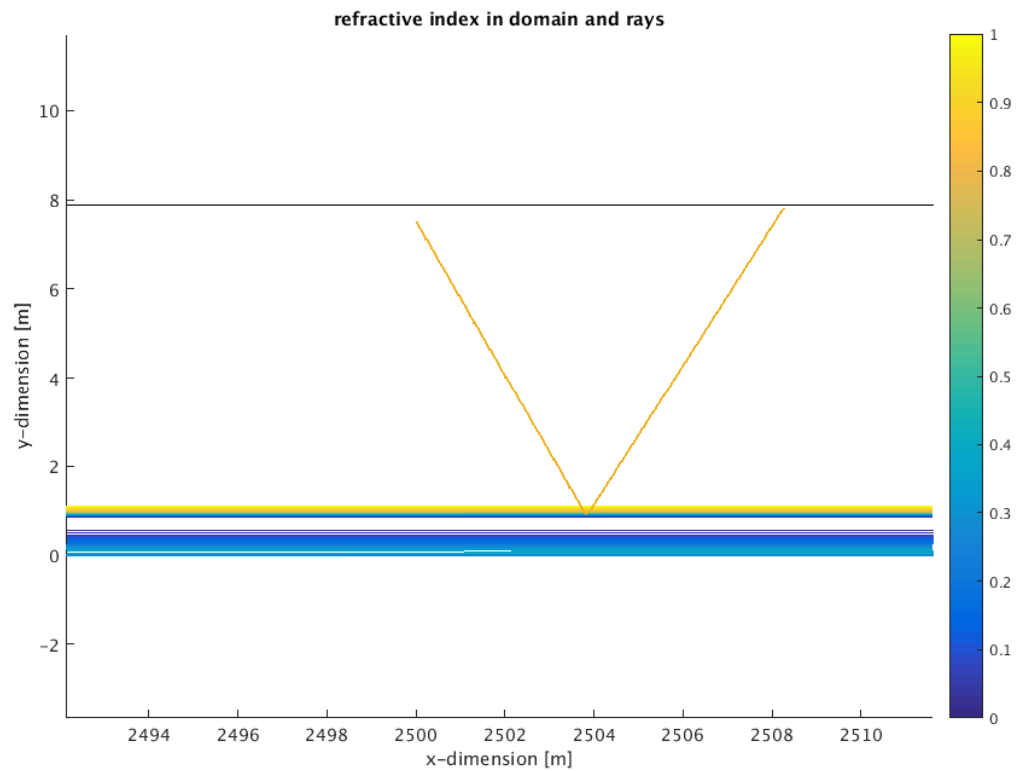
t=104s

Comparison: $f=400$ Mhz vs. $f=8401.4$ Mhz, $t=50$ s



- Conclusion: no black-out for X-Band

Preliminary Application to Meteor Research



- Altitude: 70km, speed: 20 km/s

Thank you for your attention!