Thermal plumes in turbulent Rayleigh-Bénard convection using Laser-Induced Fluorescence

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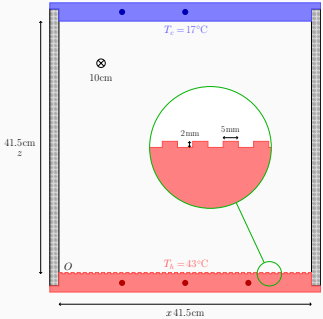
- Role of the **thermal boundary layer** on the global convection ?
- Use of **controlled roughness** to modify the boundary conditions.
- The **temperature field** is difficult to access experimentally
- DNS cannot reach **high Rayleigh number**



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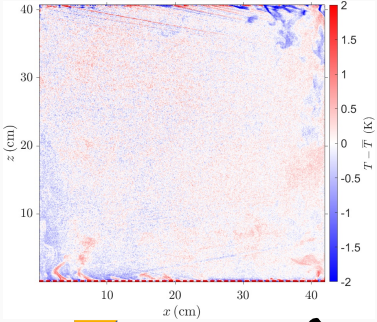
- **Experimental** visualization of the instantaneous temperature field using Laser-induced Fluorescence
- High Rayleigh number **Ra**=5.4×10^{10}
- Good temperature sensitivity ± 0.05 K and spatial resolution 0.25 mm



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