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GReC experiment : probing ultra high-intensity turbulence

After one decade of hibernation and few key improvements, the turbulence experiment GReC was re-started in 2015, thanks to EC support (Consortium of European High-Performance Infrastructure in Turbulence, EuHit).
This experiment consists in a 1-m-diameter jet of helium at 5 K, with a mass flow ranging from 20 to 250 g/s supplied by a 6 kW refrigerator. Academic-grade turbulence is generated at ultra-high Reynolds numbers (Re>10^7), out-of-reach in standard laboratory experiments.
What makes cryogenic helium so beneficial to turbulence studies? What is the price to pay on the instrumentation side? The talk will address and illustrate these points with preliminary results obtained in GReC.

Summary

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