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## **[533] Towards non-destructive, real-time transport measurements of interacting Fermi Gas**

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We are setting up an experiment which combines cavity-assisted measurements with a tunable Fermi gas of  $^6\text{Li}$  to study the transport properties of mesoscopic devices.

We will take advantage of a high-finesse cavity to implement a non-destructive measurements procedure to monitor in real time the dynamics of the system and to increase the sensitivity by reducing the preparation noise.

In my poster, I will give a detailed description of the current status of the experimental setup and I will discuss the preliminary test that have been performed on a cavity prototype.

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