

# **Towards a Low Temperature FTIR-Spectrometer with SNSPD detector**

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For years, our group has been using a grating spectrometer with a superconducting nanowire single-photon detector (SNSPD) to be able to measure very weak laser induced fluorescence in the mid infrared from vibrationally excited molecules. [1]

In this work, I attempt to use a Michelson interferometer instead of the grating. I will discuss the pros and cons of each method and present the current progress of the project.

## **Reference**

[1] Li Chen, Dirk Schwarzer, Jascha A. Lau, Varun B. Verma, Martin J. Stevens, Francesco Marsili, Richard P. Mirin, Sae Woo Nam, and Alec M. Wodtke, "Ultra-sensitive mid-infrared emission spectrometer with sub-ns temporal resolution," Opt. Express 26, 14859-14868 (2018)