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## Frequency dependent squeezing

The first gravitational waves signal was detected on the 14th september 2015 by the LIGO observatories. This first detection marked the beginning of a new kind of astronomy : gravitational waves astronomy. With this in prospect, it is important to enhance the sensitivity of gravitational waves detectors. Frequency dependent squeezing is a promising improvement which uses the rules of quantum optics to go beyond the standard quantum limit of gravitational waves detector sensitivity. I will present this technique within the framework of an experimental prototype using the CALVA 50 meters cavity at LAL to test its implementation in a detector such as Advanced Virgo.

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