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Developing a squeezed light source at Virgo site

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Recent works (AEI-GEO600 and LIGO collaboration) demonstrated that the squeezing technology is one of the major and more urgent upgrades of the 2nd generation of GW detectors. They demonstrated also that to completely benefit from the injection of a squeezed state into the ITF (IFO), frequency dependent squeezing is a must. The LIGO collaboration already started to realize his own freq. dependent squeezer, to be implemented into the ITFs.

In this framework, I'll present the steps undertaken from various INFN groups to realize a first prototype of freq. independent squeezer with the specific aim to be implemented in Advanced Virgo.

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