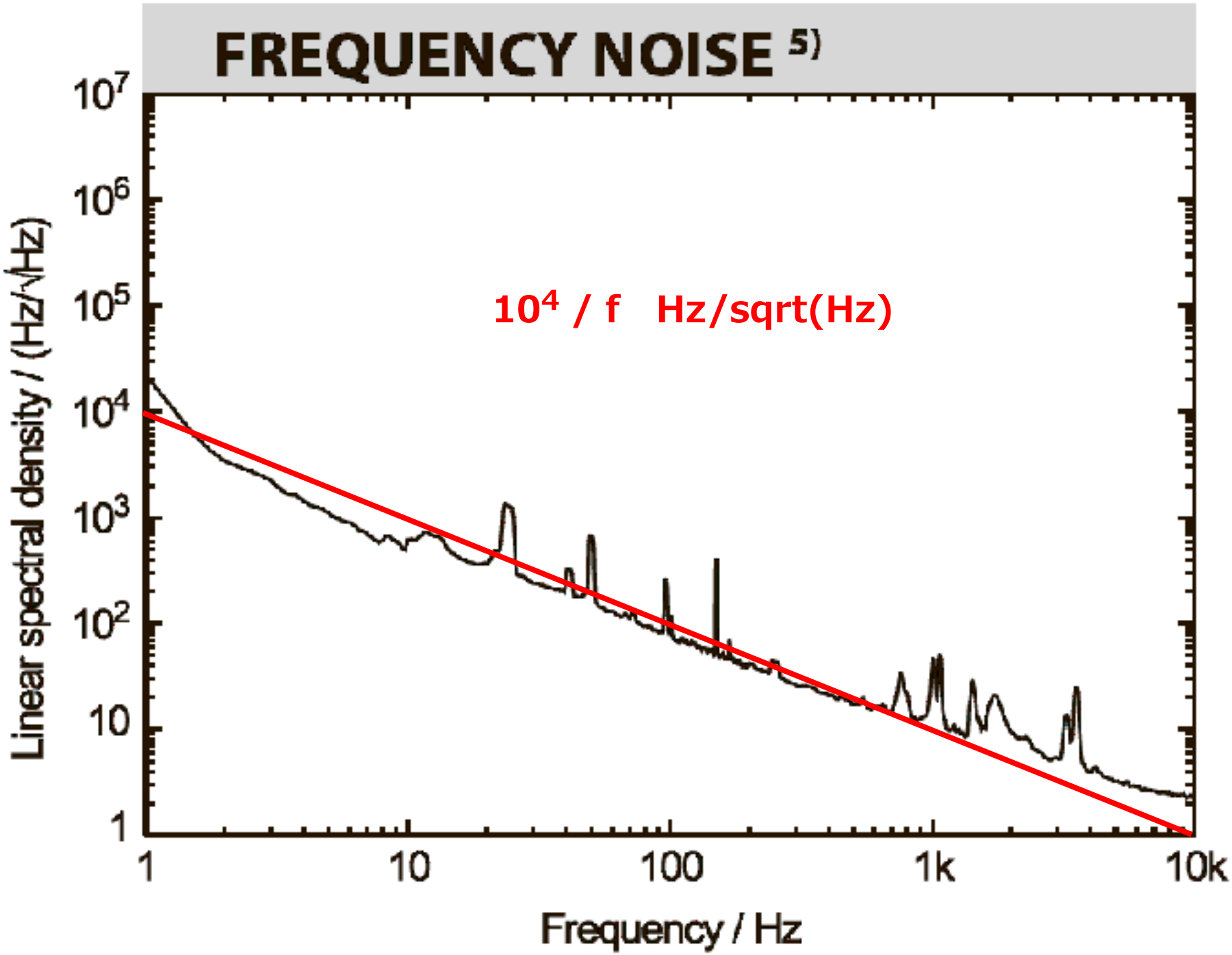
Frequency noise modeling for servo designs

-- Laser source section --

Master Laser : Innolight Mephisto



Ohmae's Doctor Thersis (p.58)

三尾研 100W Laser

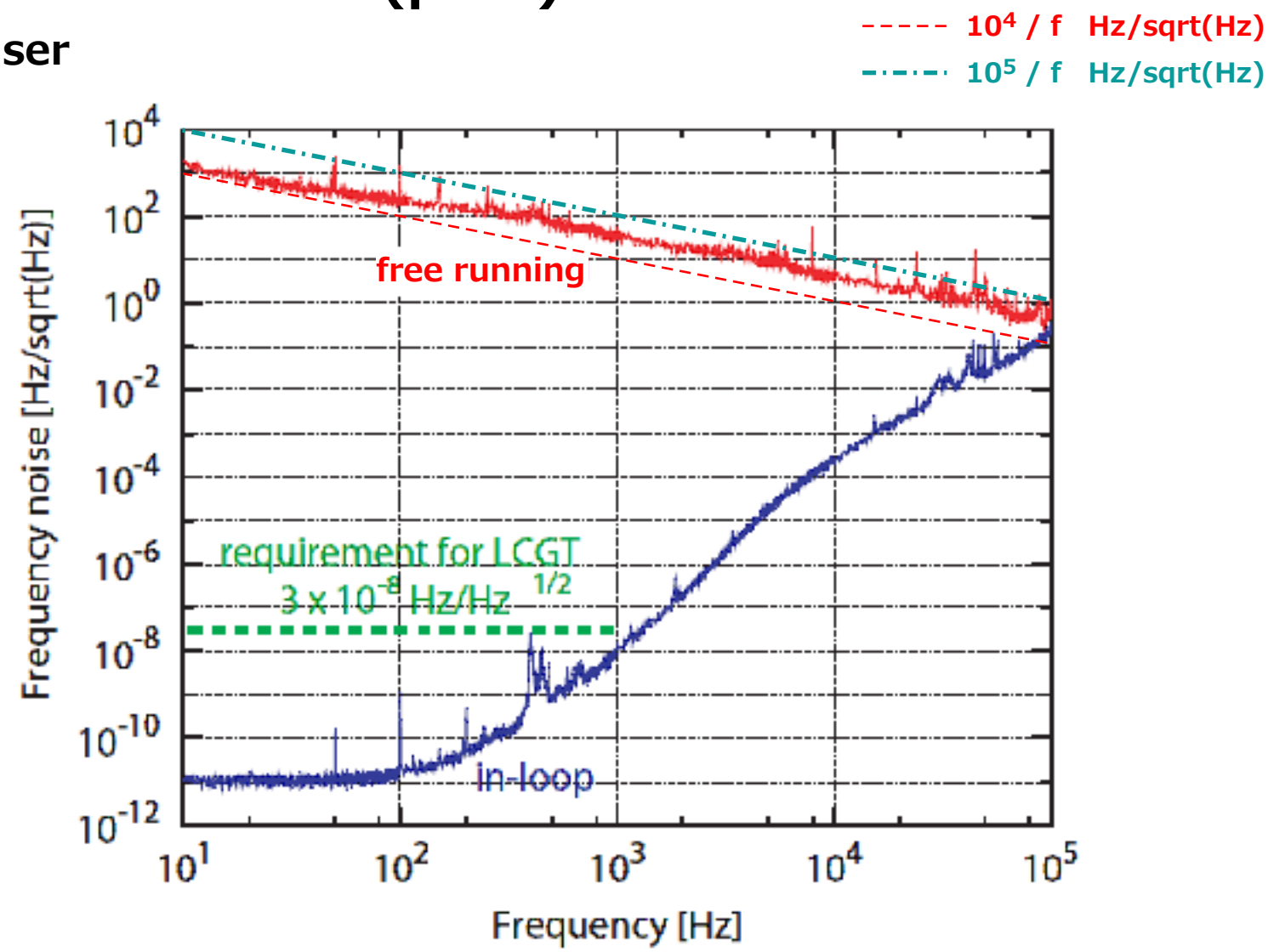


Figure 3.18: Measured frequency noise spectra of free-running injection-locked laser and laser stabilized relative to a reference cavity obtained by an in-loop measurement (final state).

aLIGO prototype 200W Laser

LIGO-T0900649-v4

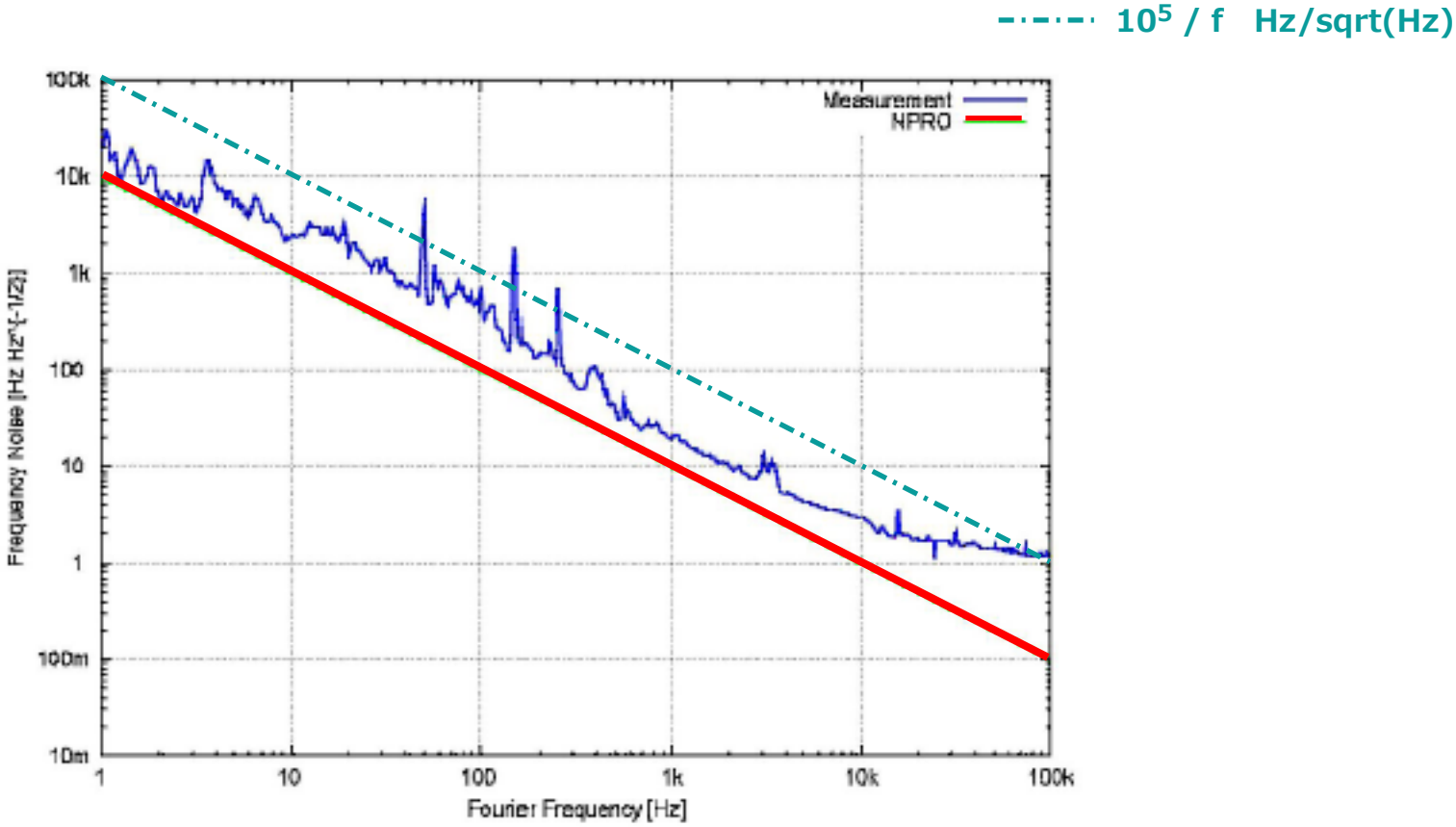


Figure 16 Measured free-running frequency noise of the 200-W oscillator. The frequency noise is about 5 dB above the noise estimate for the NPRO alone.

Frequency modeling of the reference cavity

LIGO-T0900649-v4

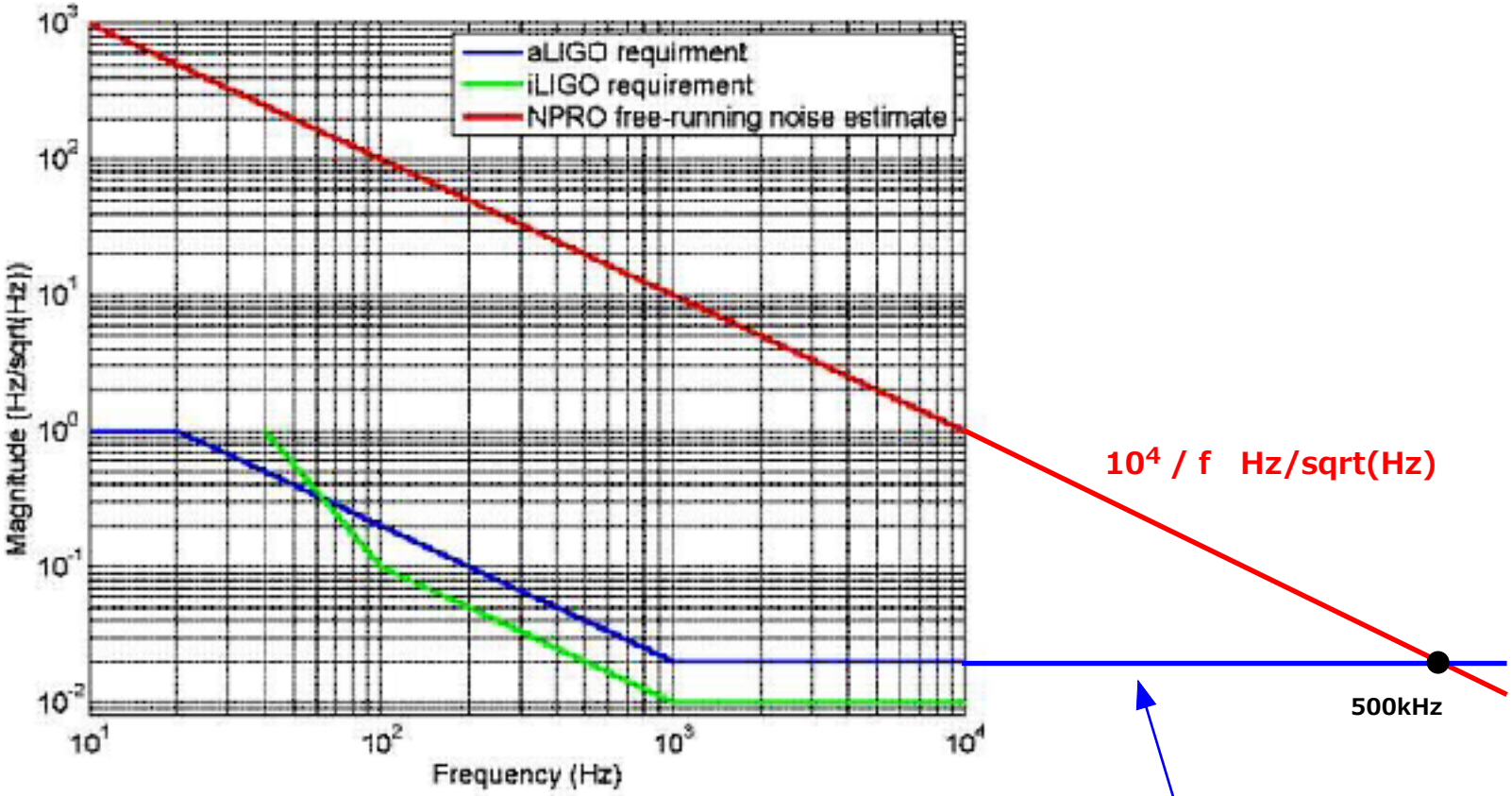


Figure 15. PSL free-running NPRO frequency noise estimate and *Advanced LIGO* and *Initial LIGO* frequency noise requirements.

えいやっと
これを Reference Cavity の
目標値に設定。