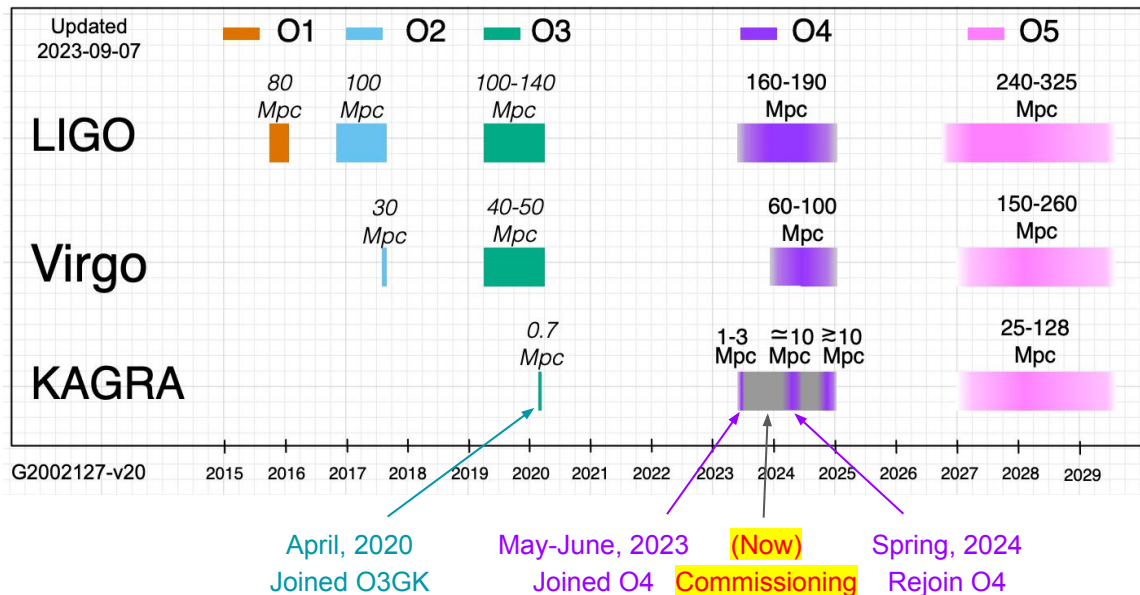


Open LVKEM town hall telecon,
Sept. 21, 2023

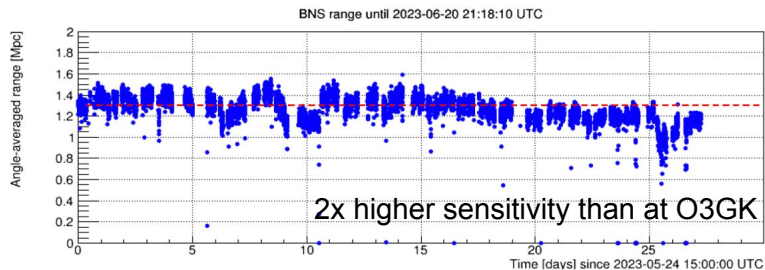


KAGRA updates

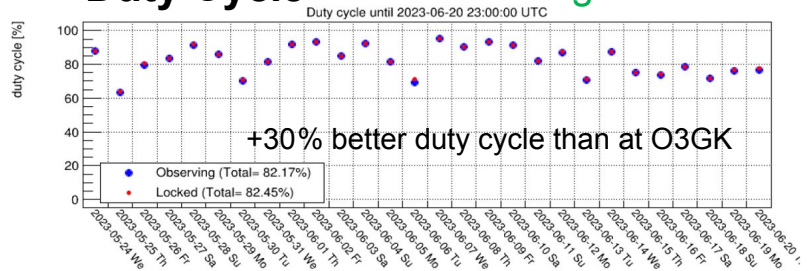
Summary plots

of our first observation period (May-June, 2023) at O4

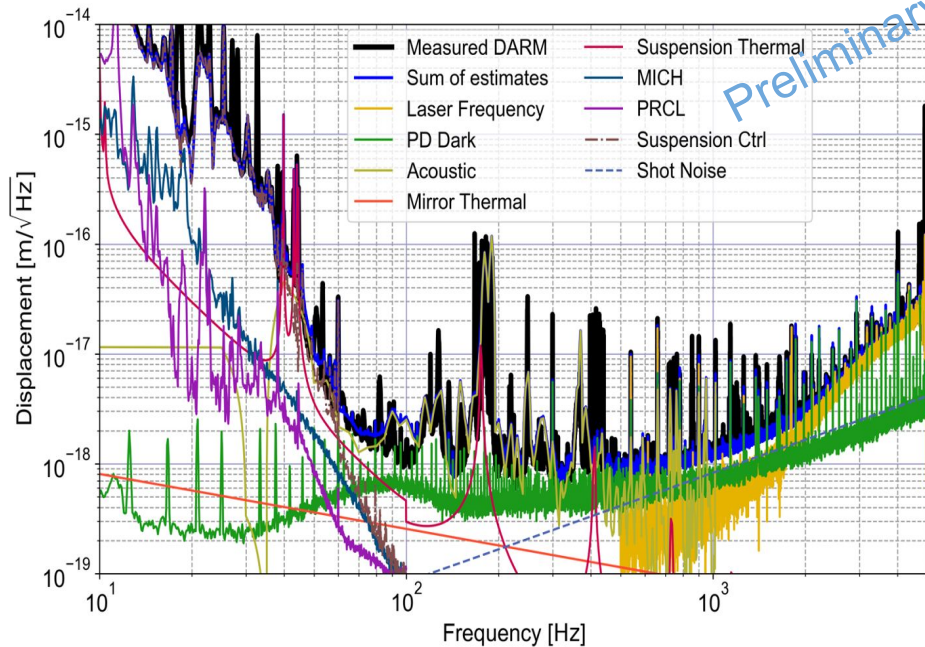
BNS range ~ 1.3 Mpc (median)



Duty Cycle $\sim 80\%$ average



Noise budget



Items currently being worked on (or partially completed) in the commissioning toward O4 rejoin in the spring of 2024.

- Reduce control noises.
- Mitigate scattered lights.
- Switch to high-power laser.
 - Operate the interferometer with higher power (in discussion: 5-10W?) to mitigate sensing noises.
- Cool down the mirrors
 - All the four main mirrors are being cooled down to reduce mirror thermal noise and suspension thermal noise.
 - Refresh coolers (otherwise it would be degrading during the obs. run)
 - We confirmed that the mirror, cooled to 30K, was free of frost and kept good finesse.
- Implement improved alignment-sensing control
- ***Do as many other things as time allows.***

Mirror cooling status

