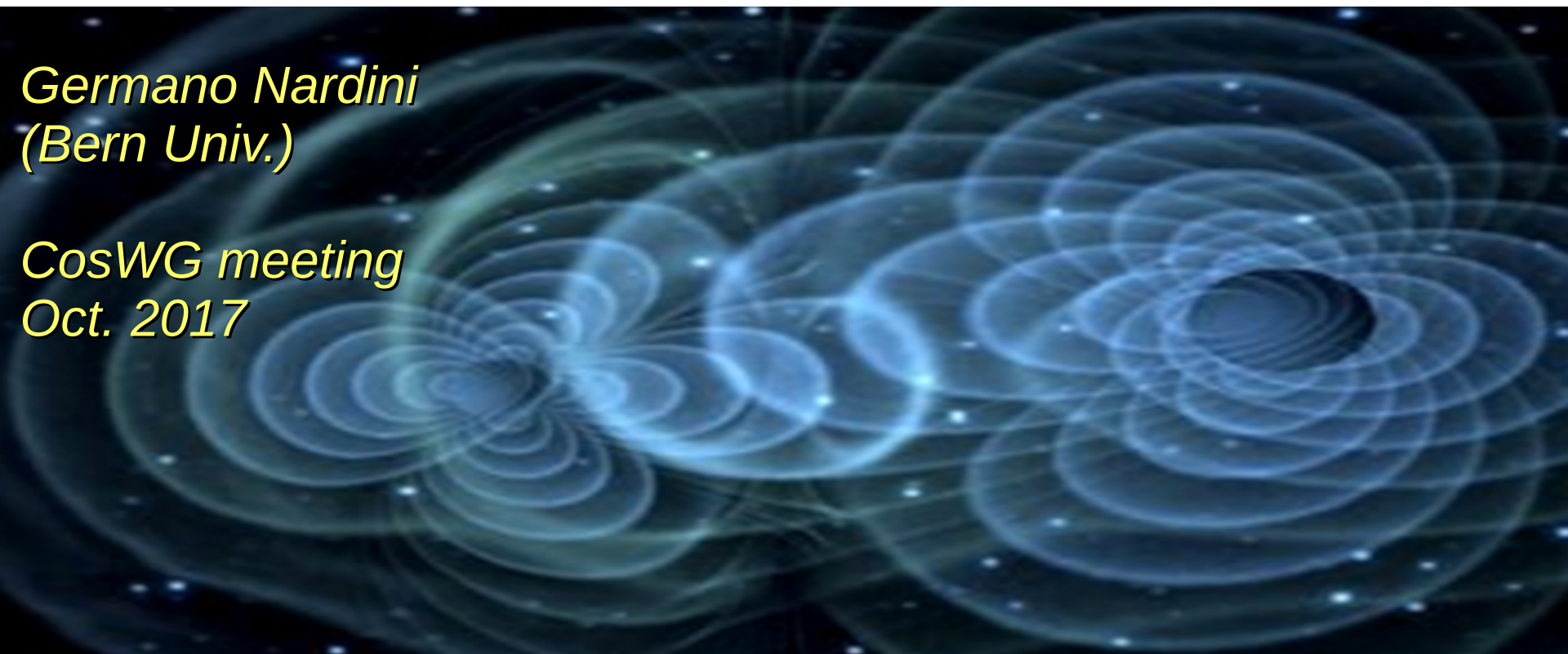


SGWB via frequency bins

Germano Nardini
(Bern Univ.)

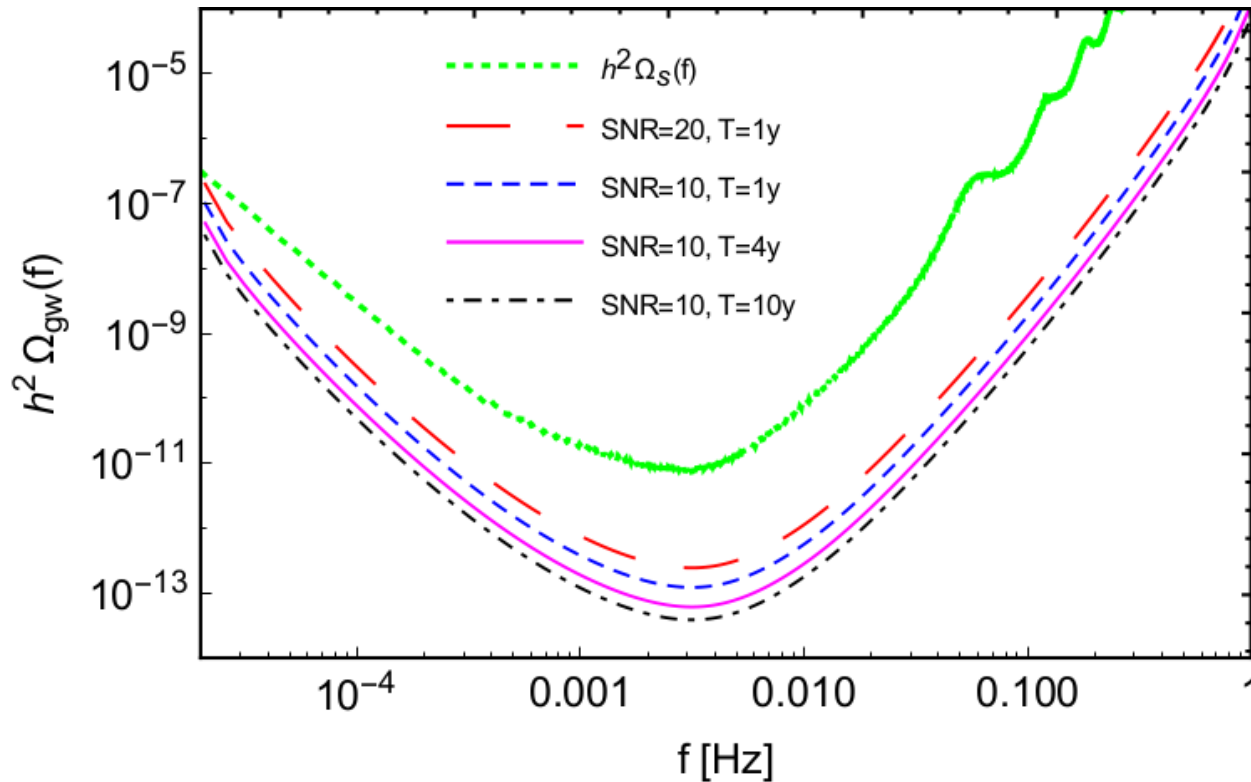
CosWG meeting
Oct. 2017



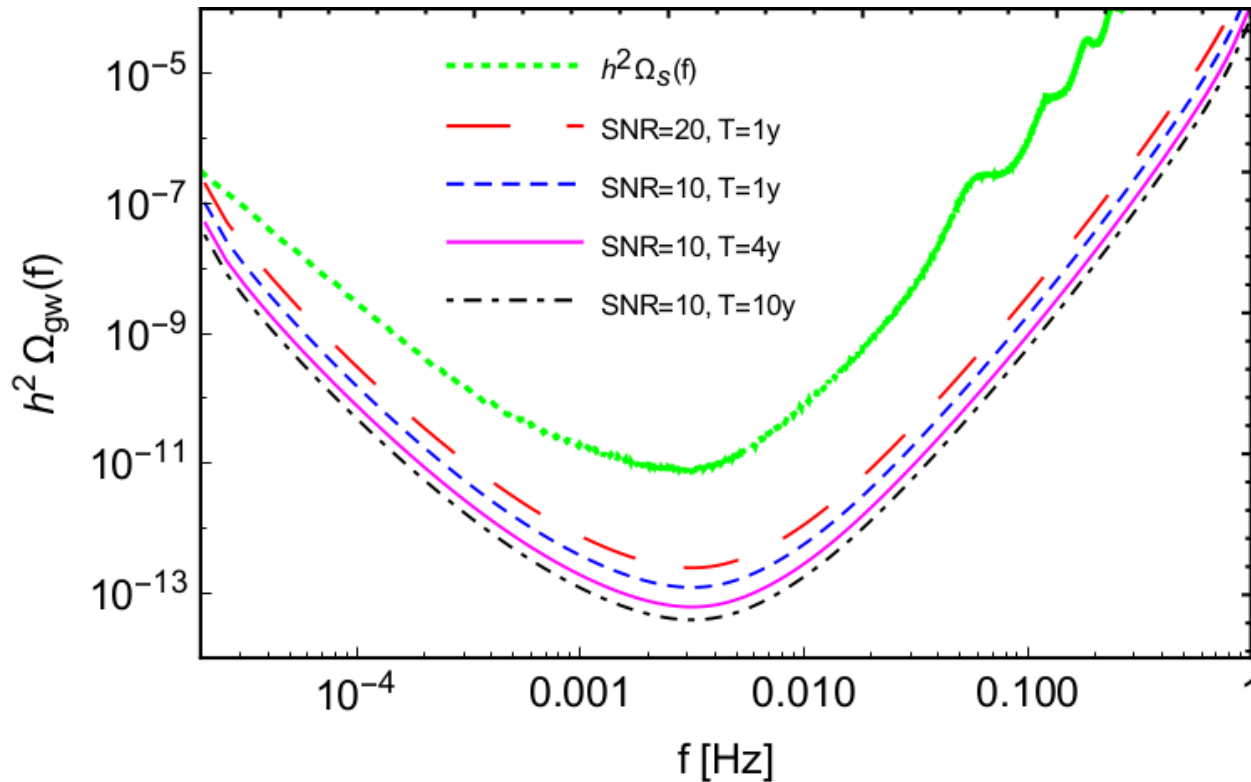
u^b

Based on *arXiv:17XX.xxxx*

[C. Caprini, GN, A. Petiteau]

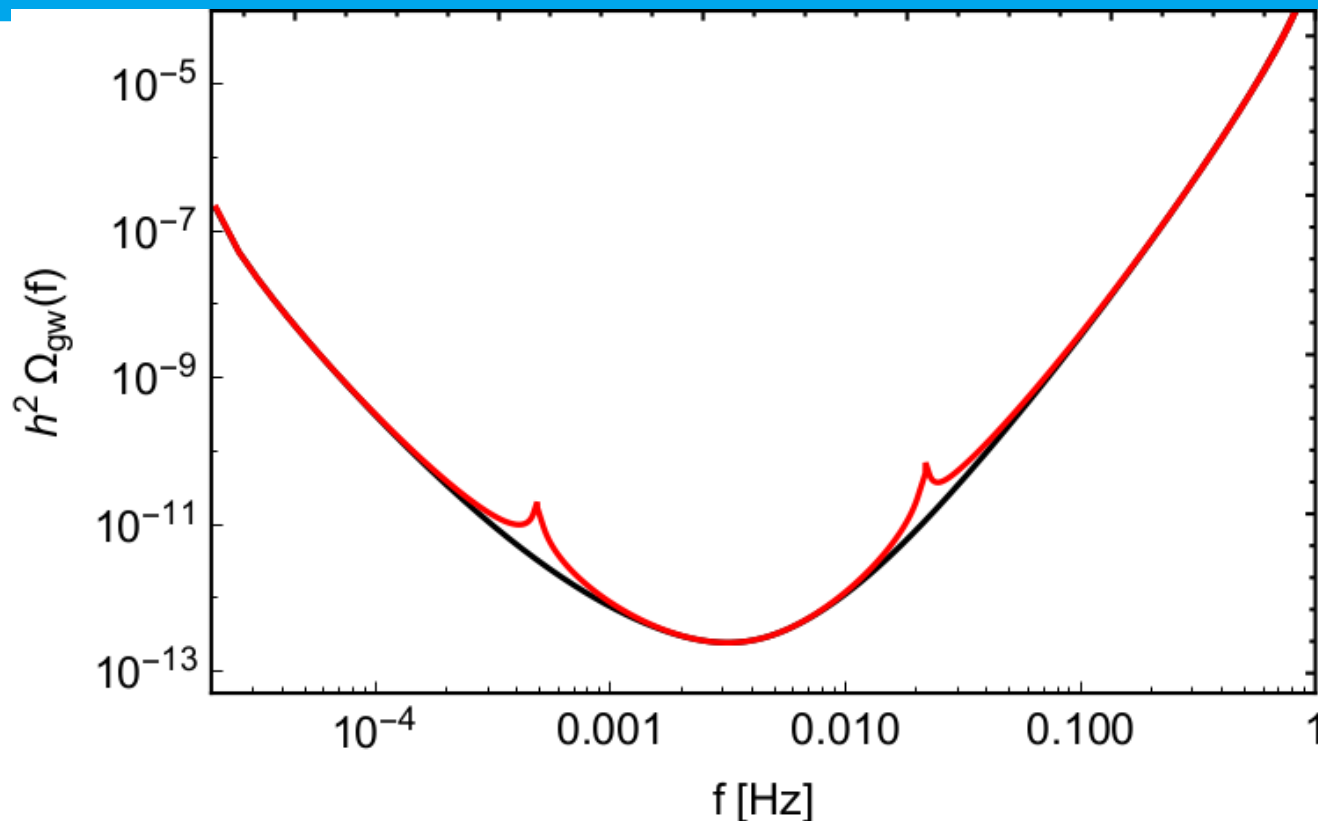


- > PLS is the envelope of the SNR=X power-law curves
- > It goes down by a factor of 3.2 moving from 1 year to 10 years



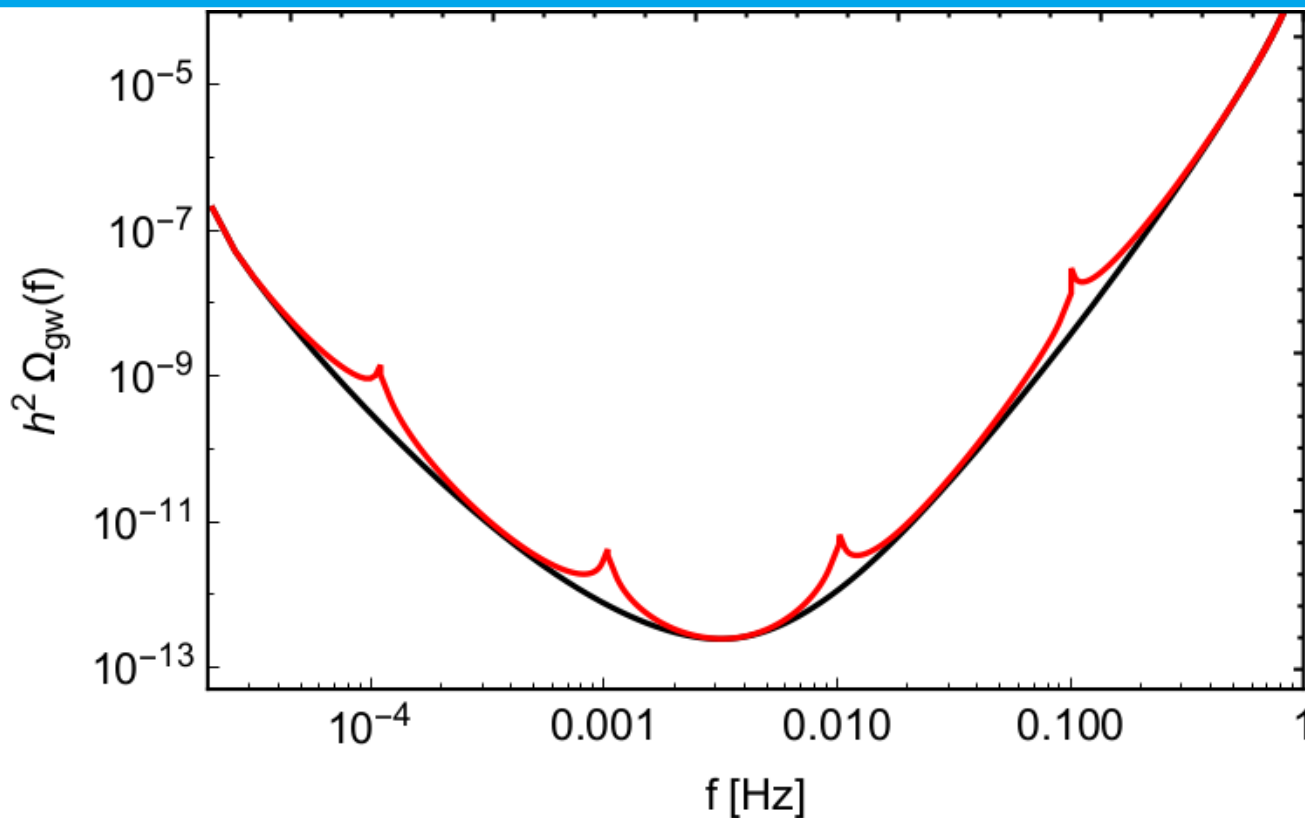
- > Adam&Cornish's claim: if a power-law SGWB has SNR=20, it is possible to reconstruct the amplitude and the slope within some uncertainties (!!!!)

How much large is the fr. interval dominating the SNR ?



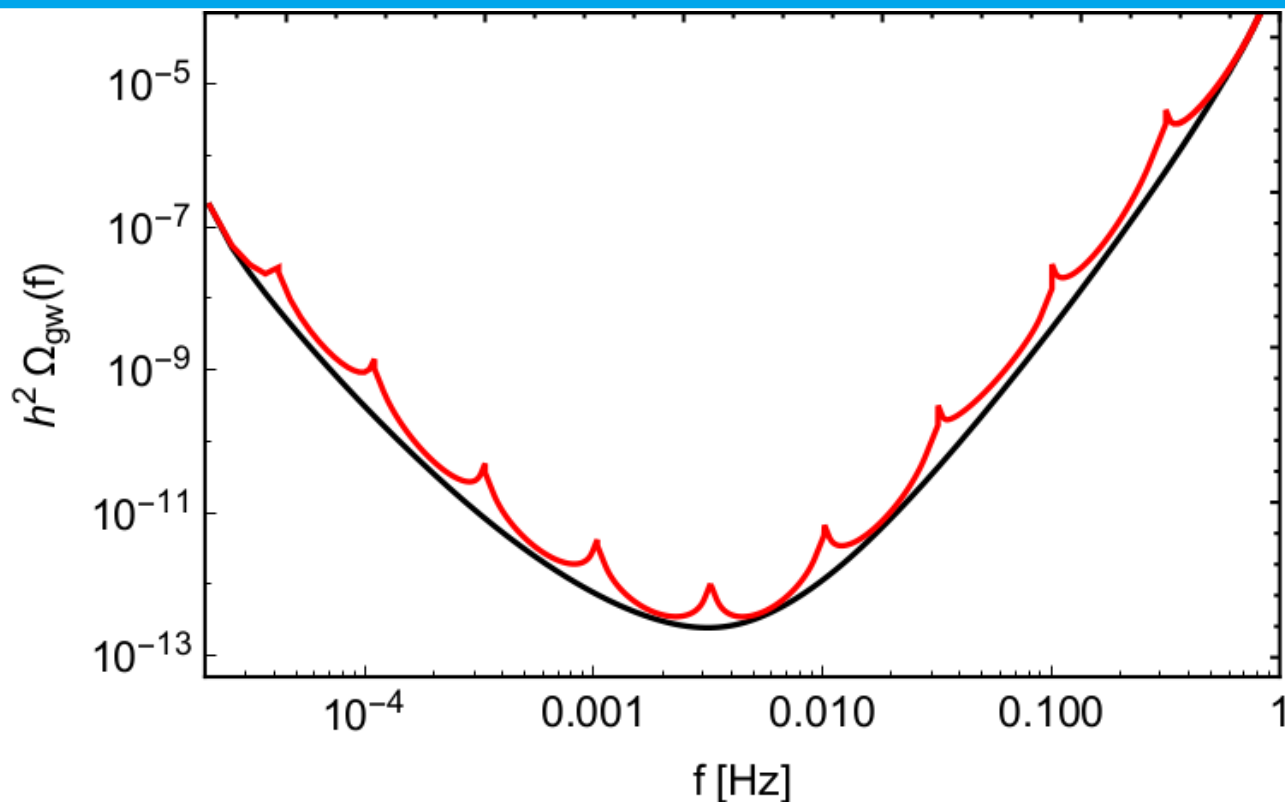
- > PLS with SNR=20 in the case you break the LISA band into 3 bins
- > If you are considering a SGWB power-law that is not tangent precisely at the borders of the interval, the SNR does not change

How much large is the fr. Interval dominating the SNR ?



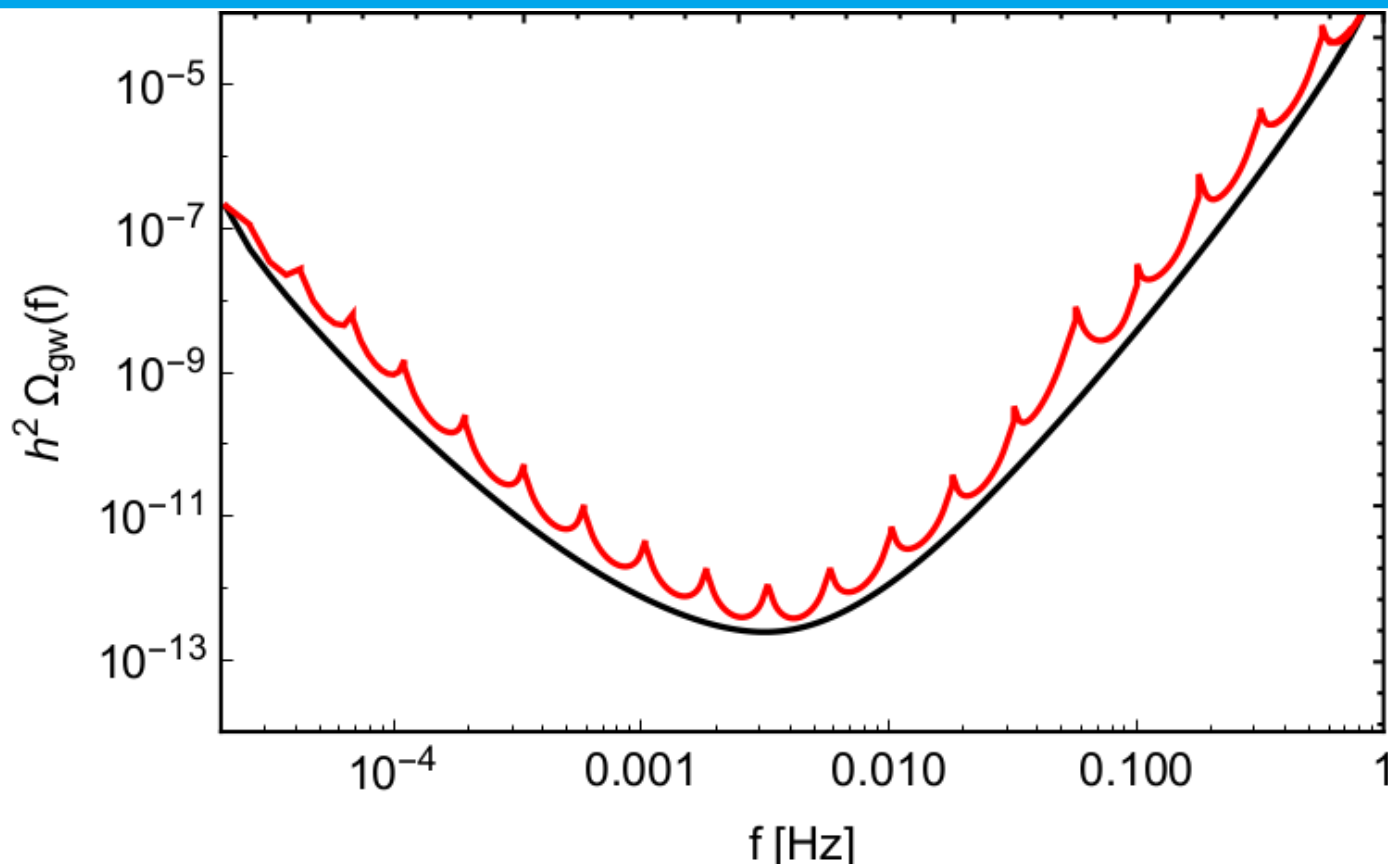
- > PLS with SNR=20 in the case you break the LISA band into 5 bins
- > If you are considering a SGWB power-law that is not tangent precisely at the borders of the interval, the SNR does not change

How much large is the fr. Interval dominating the SNR ?



- > PLS with SNR=20 in the case you break the LISA band into 10 bins
- > ... now you see the size of the relevant interval !
- > u^b The SNR estimate “your signal vs. PLS curve” is not bad if ...

How much large is the fr. Interval dominating the SNR ?



- > PLS with SNR=20 in the case you break the LISA band into 20 bins
- > The size of the relevant interval is smaller than the relevant one!

LIGO BH Binaries and binning procedure

