

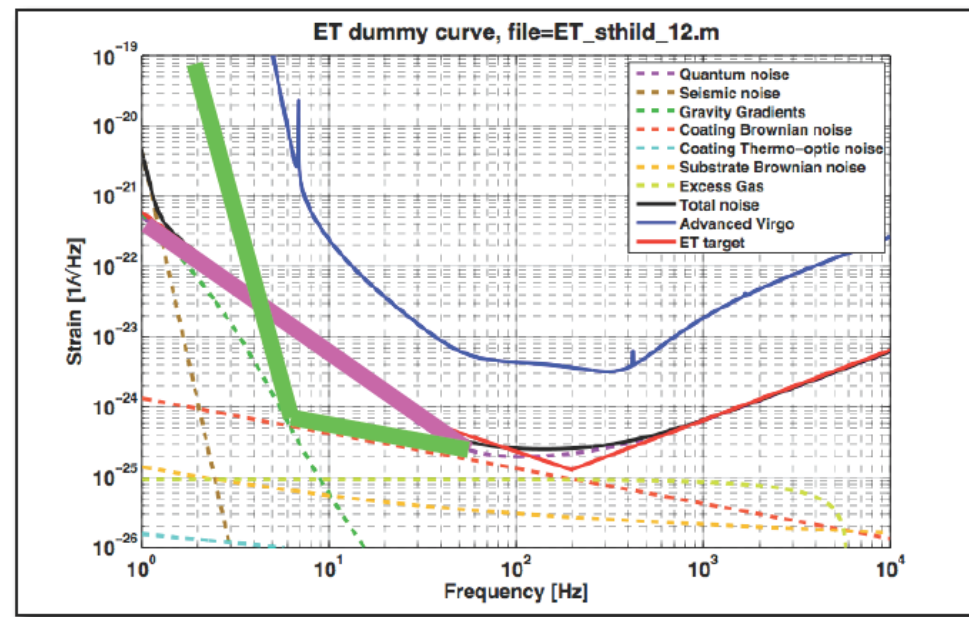
Sensitivity trade-off for CW searches

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Let us consider the two possible sensitivity curves shown by S. Hild at the Cardiff meeting

(<https://workarea.et-gw.eu/et/WG4-Astrophysics/meetings/cardiff-090325/> -> ET Sensitivity News, slide 10) .

One is the “standard” ET-B sensitivity, the other (ET-B2) has a much worse sensitivity below $\sim 3\text{Hz}$ but better around 10Hz .

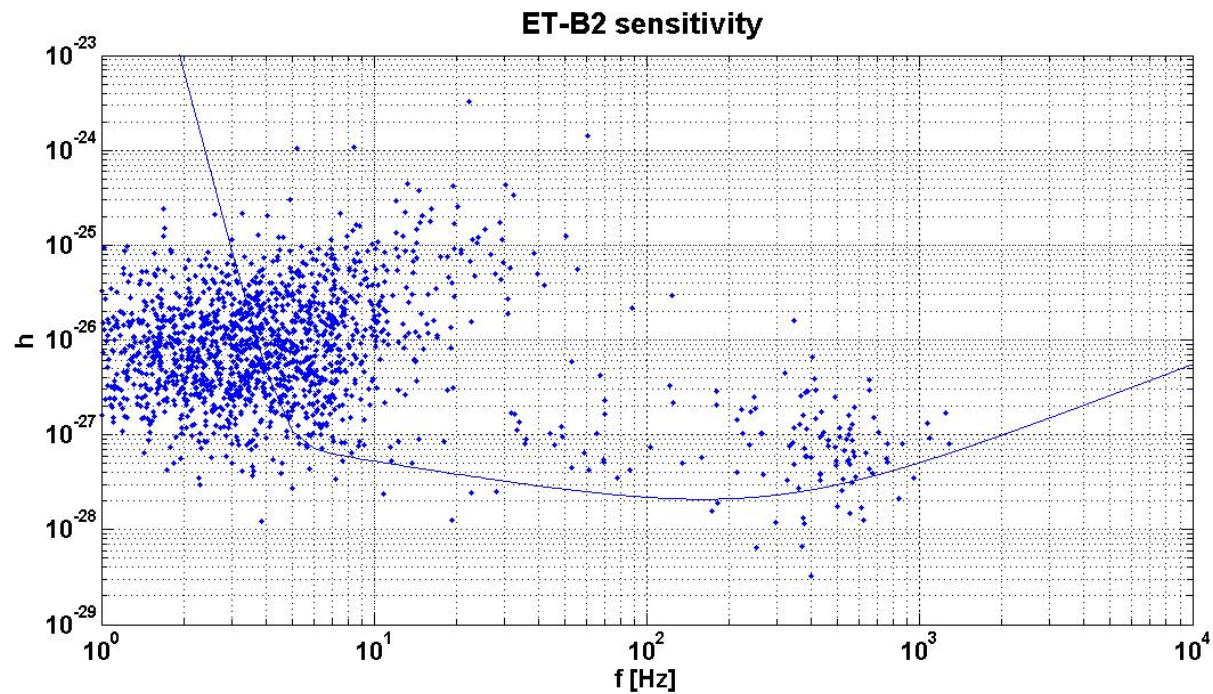
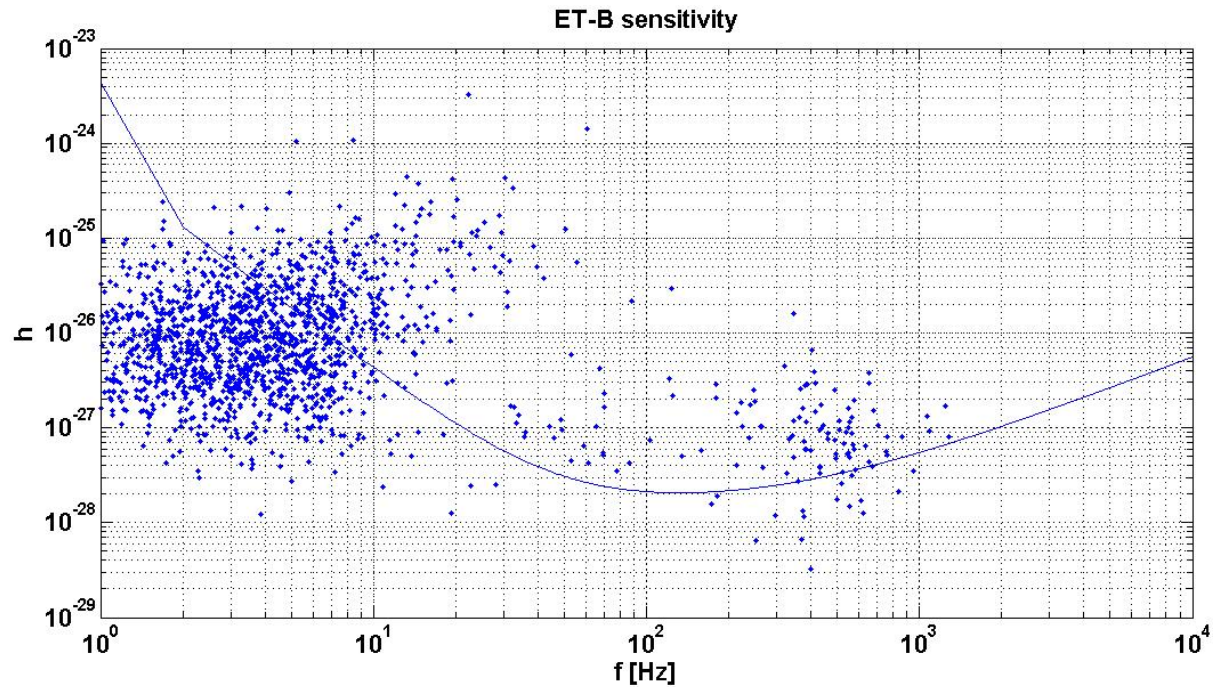


$$T_{obs} = 5 \text{ yr}$$

$$FAP = 1\%$$

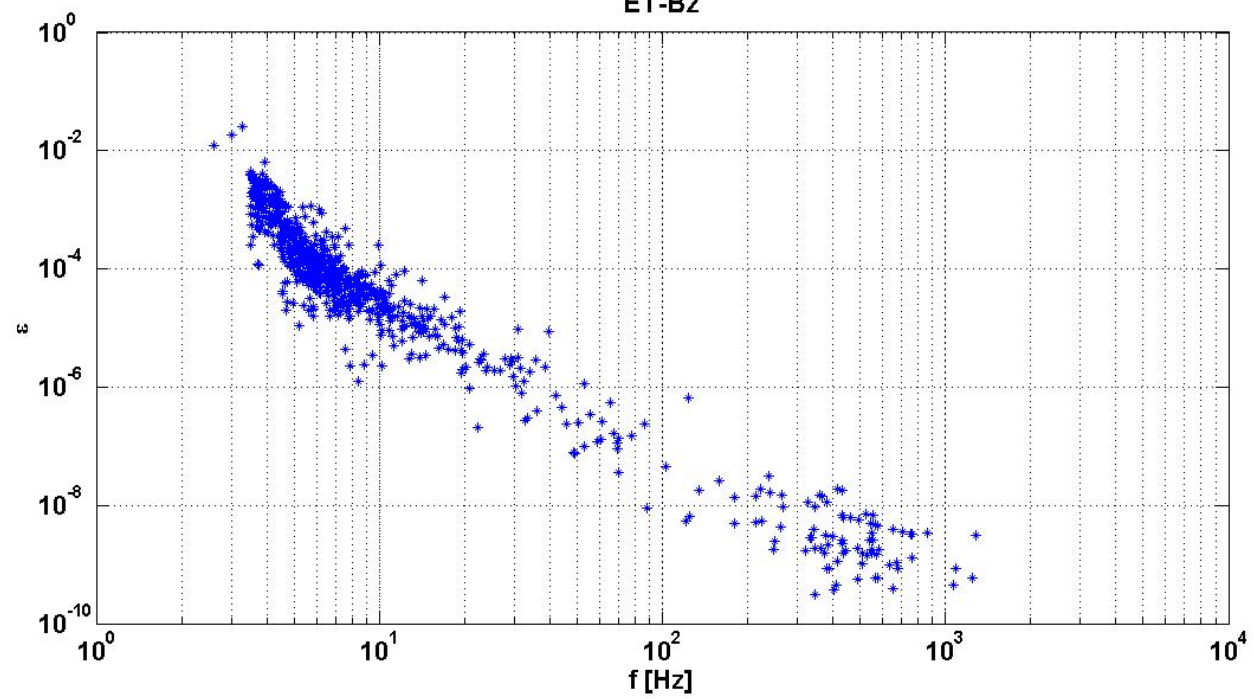
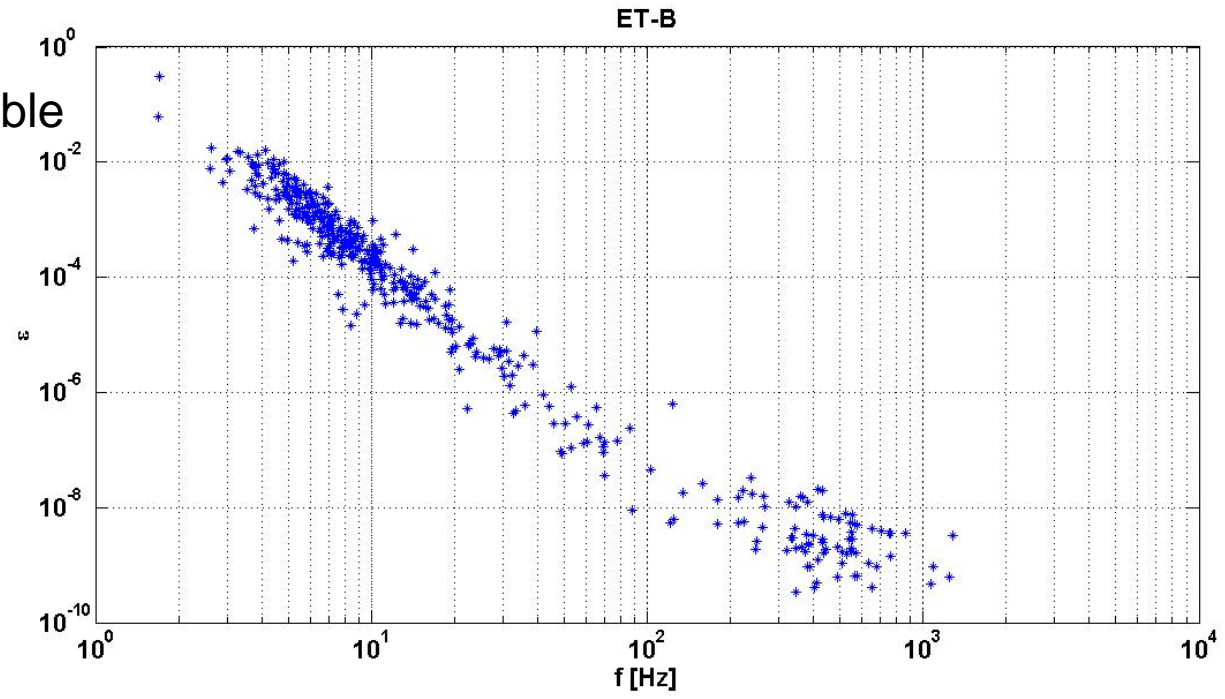
$$FDP = 10\%$$

Minimum
detectable
amplitude vs.
known pulsars at
spin-down limit

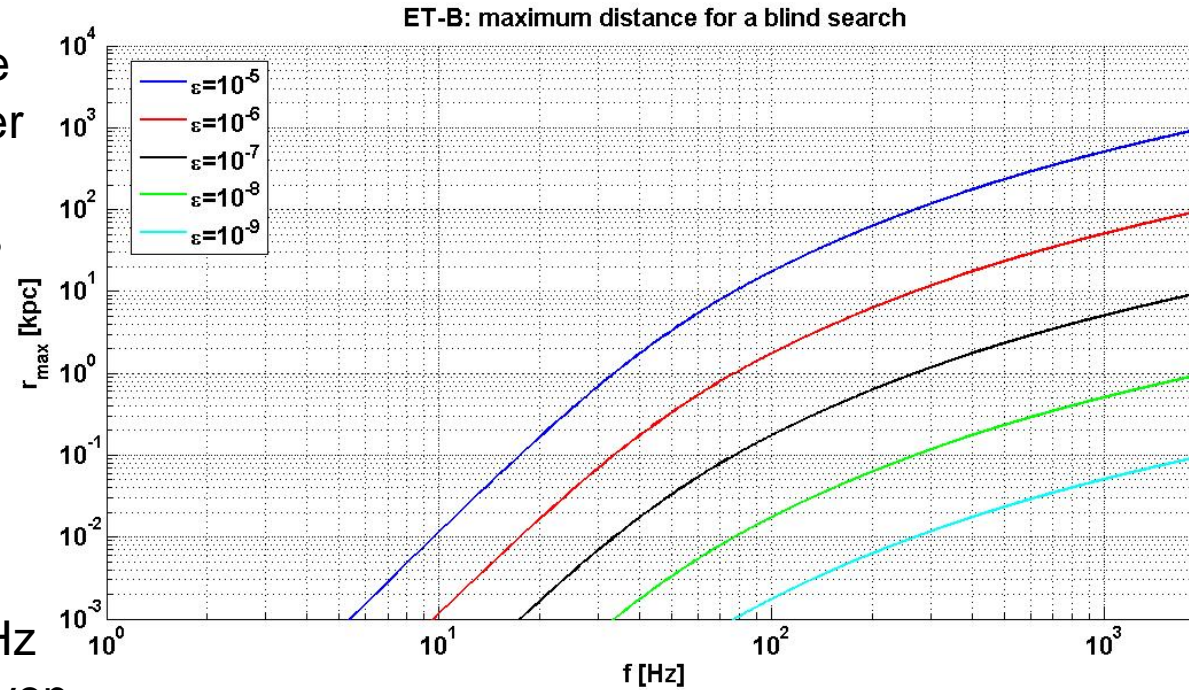


Search for known pulsars

Minimum detectable
ellipticity



Maximum distance
of a source in order
to be selected
among candidates



Sources below ~ 5 Hz
are undetectable even
if extremely distorted

