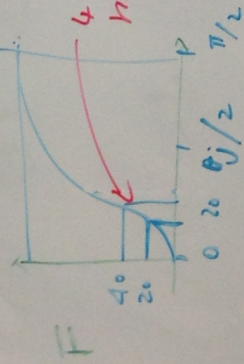


0. - in 5 years.
Adv. LIGO/Virgo.

$$R \sim 6 \times 10^{-3} (100 \text{ Mpc})^3 \text{ yr}^{-1} \cdot \text{BNS.}$$

0 - coincidences w/ GRBs. $[1 - \cos(\theta_i)]/2$.

H L V I K.



4 events
nominally \rightarrow 0.4 events.

1. Confirm GRB - (BNS) association.
constrain θ_i .

Spectra could help "settle" controversy about sGRB pop.

10 events.

ind. Dist

Degeneracy: $(i, \psi, D_L, \theta, \phi), z$.
Pol.

- Measure the opening angle within a factor of 2.
- Standard sirens. $-(D_L - z)$ - cosmography.

$$H_0 \sim 10\% - 30\%$$

100 events

* NS equation of state.

$$M_{\text{obs}} = (1+z) M_{\text{int}} \downarrow \text{NS EOS}$$

$$v = (Mf)^{1/3}$$

$$f \rightarrow f/(1+z)$$

$$M \rightarrow (1+z)M$$

* Classify GRB types $\begin{cases} \text{BNS} \\ \text{NS-BH} \\ \text{neither} \end{cases}$

* Calibration of Std. Candles.

* Measure $(H_0, \Omega_m, \Omega_b, w_0, w_1)$ - CVD B
Combine GW + Planck. DB
WZ.

* Delay b/w GRB and GW constrain M_{GW} .

* Early Warning Systems for GRBs.

#	Astrophys. / Fundamental P. / Cosmology.
0	Constrain the θ_j .
1	GRB-BNS - association, constrain θ_j . NS-BH
10	
100	