

A Few Questions

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Cosmic Explorer Cosmology Panel

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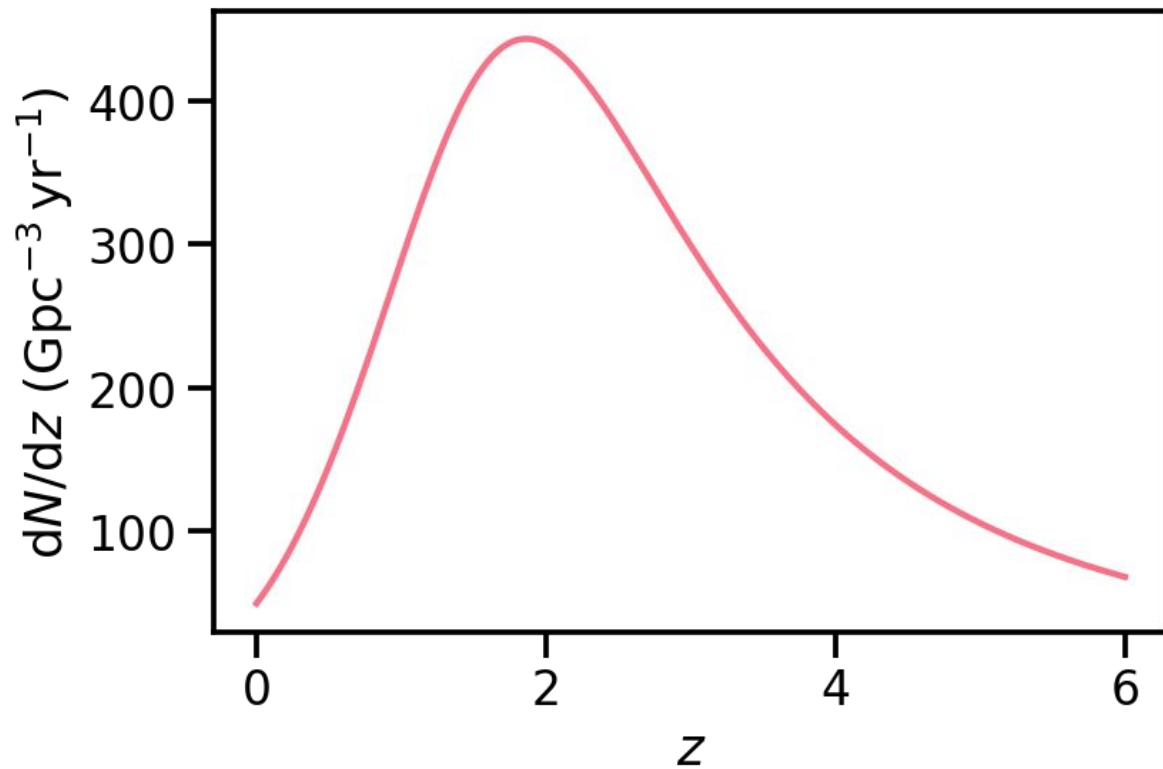
[@farrwill](https://twitter.com/farrwill)



[farr](https://github.com/farr)

This talk: <https://bit.ly/3osoEK9>

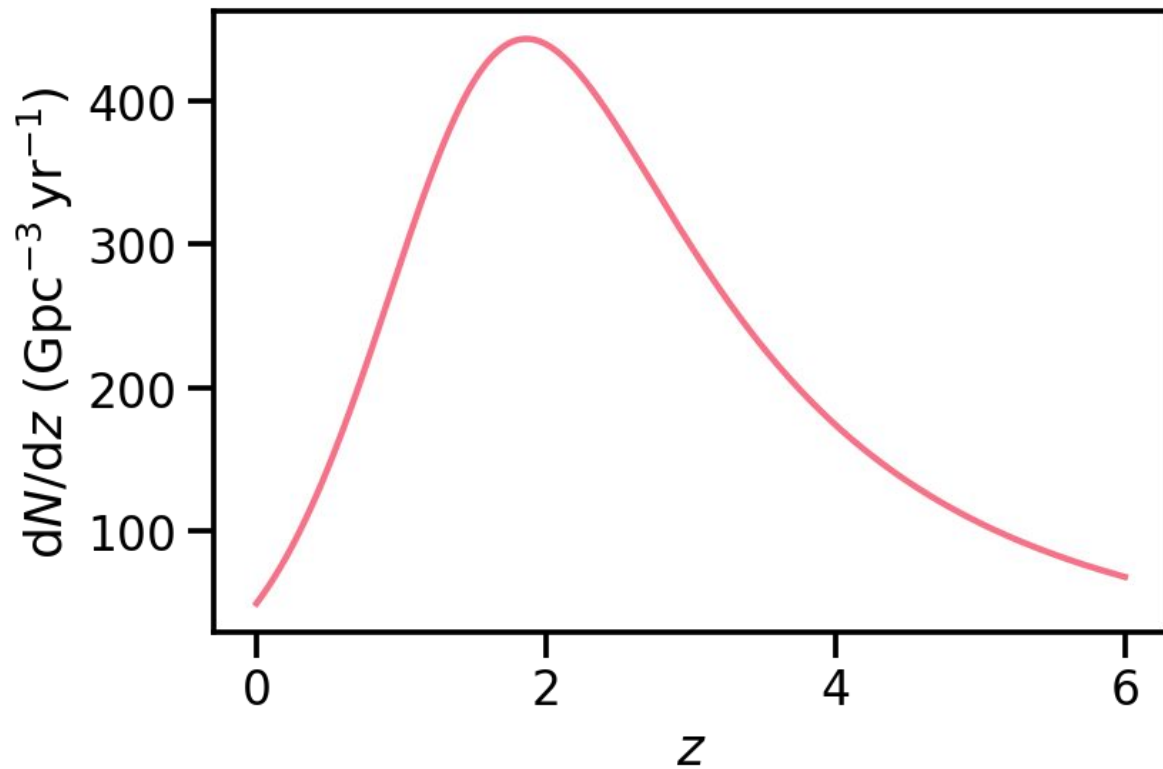
BBHs: Where Are They?



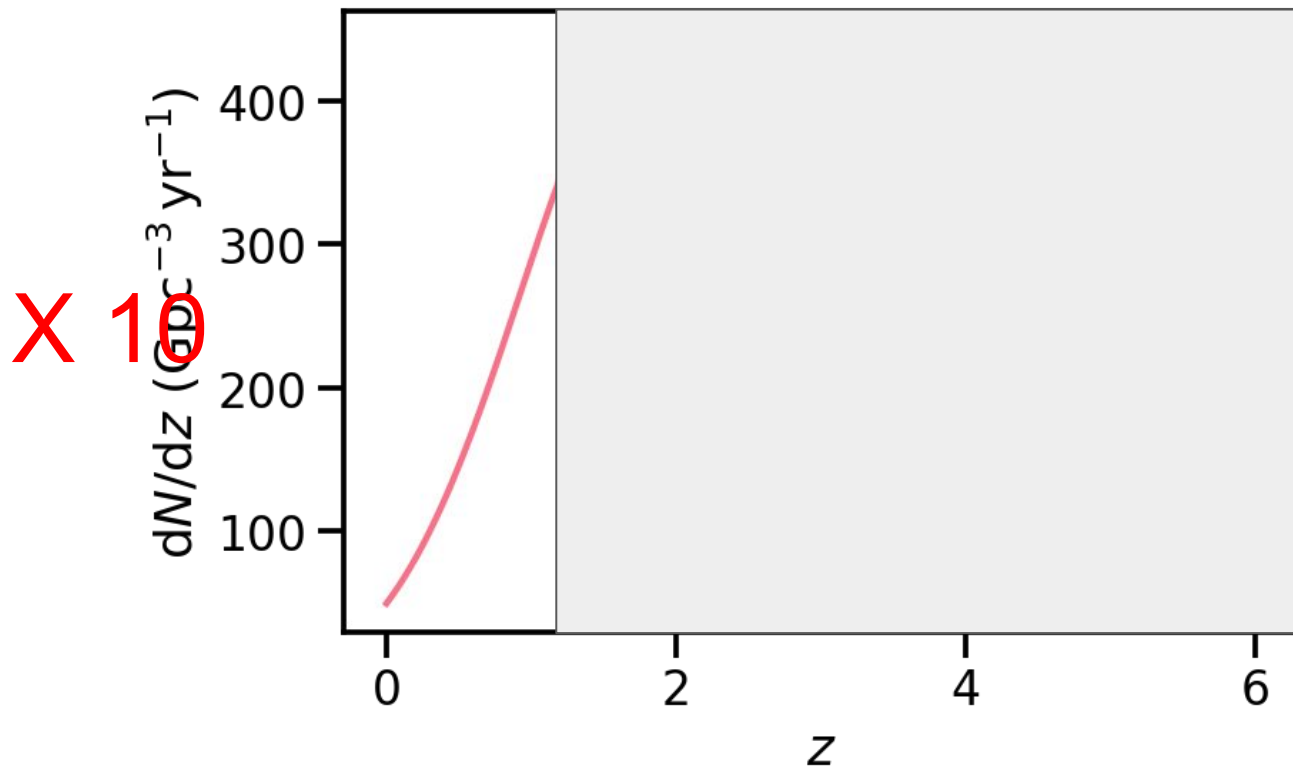
Z vs D at $z \sim 1-3$: What Can We Do?

- Matter dominated era, $H(z) \sim (1+z)^{1.5}$. **We can check this.** (But DESI + others will be there first!)
- Combine with local H_0 measurements \Rightarrow energy “census” + curvature in pure-GW measurements?
- Cross-correlate (or “calibrate”) with which EM measurements?
 - DESI?
 - Rubin (LSST)?
 - CMB Stage IV or later?
 - ?? (See Hiranya’s excellent talk.)

BNSs: Where Are They?



BNSs: Where Are They?



Z vs D at $z \lesssim 1$

- Dark energy EOS?
 - Hopefully wFIRST/Roman has done this already?
- Watch transition from matter- to DE-dominated universe?
- H_0
 - But hopefully somebody else has already pinned this down?
- How to best combine this with higher-redshift BBH measurements?

What do we need from CE?

- Calibration
- Low frequency sensitivity (high masses and/or high redshifts)
- Sky localization (i.e. a “partner”) for “counterpart methods.”
- Rapid response telescopes with good depth (for BNS counterparts!).
 - Also for AGN counterparts?
- What else?