

What comes next for LIGO?

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Seeing the Sound: Bridging Gravitational Wave Physics and Electromagnetic Astronomy



Strong Field Gravity: Masses, Spins, Inclination







Kilonovae: Blue Flash (~hours) & Red Transient (~days)



e.g. Li & Paczynski 1998, Kulkarni 2005, Roberts et al. 2011, Nakar & Piran 2011, Barnes et al. 2013, Kasen 2013, Grossman et al. 2013



The EM-GW Challenge





Scenario I: Jetted X-ray/Gamma-ray Emission

See Neil's talk



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Scenario II: Bright & Fast Optical Flash

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Suite of Optical Surveys







Evryscope, ASASSN, HATPI ZTF, CSS-II, PS, BG

DECAM, HSC, LSST

Telescope apertures spanning 0.1m to 8m! Camera angles spanning10s to 10000 sq deg!

Well-prepared for optical survey hardware.

The Early Years of Coarse **GW** Localizations



See also Singer et al. 2014 for Multiple Islands

EM-GW Detectability (Hardware)



