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Observing spinning NSBH coalescences with second generation gravitational wave observatories IAN HARRY, DUNCAN BROWN, Syracuse University, DREW KEPPEL, ANDREW LUNDGREN, AEI, Hannover, ALEX NITZ, Syracuse University — In this talk we investigate the issues in observing Neutron-Star – Black-hole binary coalescences with second generation gravitational wave observatories, when the components have spin. Previous searches for compact binary coalescences using first generation facilities neglected the effect of spin. We demonstrate that such an approach will not be sufficient in the advanced detector era. We discuss how to search for such systems using model waveforms that include spin effects, but do not include the effects of precession and demonstrate that this offers a significant improvement. We also discuss the importance of using an accurate waveform model and investigate how well currently available approximations agree with each other, thus motivating the need for these models to be extended to include higher-order terms. Finally we discuss the importance of precession and how it might be possible to detect highly precessing coalescences.

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