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**The future of ground based GW astrophysics**

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With Advanced LIGO operational since September 2015, and with Virgo and KAGRA detectors expected to join forces in the coming years, a new observational era in ground-based gravitational wave astronomy is now beginning. Indeed, gravitational waves could open a totally new view of the transient sky, and shed new light on the engines powering some of the most energetic astrophysical events. In this talk, I will discuss recent results, open challenges, and prospects for the study of astrophysical gravitational wave transients, and the opportunities for multi-messenger astrophysics with gravitational waves enabled by the advanced gravitational wave detectors.

<sup>1</sup>talk on behalf of the LVC