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Coevolution of galaxies and massive black holes

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Massive black holes, with masses in the range of a few thousand to a few million solar masses, which merge with a companion black hole of similar mass are expected to be the most powerful sources of gravitational radiation in the LISA band. Such black hole binaries can be detected by LISA basically at any redshift of interest. Gravitational waves from black hole mergers can serve as a powerful tool to study the early evolution of the whole black hole population. I review scenarios for the co-evolution of massive black holes and cosmological structures, where the first black holes form in pre-galactic structures. These black holes evolve then in a hierarchical fashion, following the merger hierarchy of their hosts. Accretion of gas, traced by quasar activity, plays a fundamental role in determining the two parameters defining a black hole, mass and spin. Gravitational waves, together with observations in electromagnetic bands, can help constrain the evolution of both MBH mass and spin.