

## Discriminating between different scenarios for the formation and evolution of massive black holes with LISA

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Different scenarios for the formation and evolution of massive black holes lead to different predictions for the population of massive black holes in the Universe. By reverse engineering the problem, we can use LISA observations to discriminate between different scenarios. However, the Universe is unlikely to be described by a single model. This can be accounted for by introducing mixing fractions between the different models. In this talk, I will present simulated results for the inference of the mixing fraction between two models from LISA observations using a hierarchical Bayesian framework. I will also discuss of the robustness of this approach by using different models to generate the simulated data.

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**Classification de Session:** Contributed talks: populations of sources