Contribution ID: **41** Type: **Invited speaker talk**

Gravitational lensing applied to gravitational waves

Wednesday, 23 October 2024 15:30 (30 minutes)

In my talk, I will provide an overview about gravitational lensing applied to gravitational wave emission. I will start with the definition of lensing, discussing how it affects the gravitational signal from a source, with a focus on the differences between geometrical and wave optics regime. Next, I will describe what we expect to see in the cases of strongly and weakly lensed signals and why it is important to recognise these effects among the data. Finally, I will present the main findings in the literature about two types of sources, that we might observed lensed in the upcoming years: black hole mergers and extreme mass ratio inspirals, highlighting their importance for gravitational wave astronomy.

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Session Classification: Astrophysics