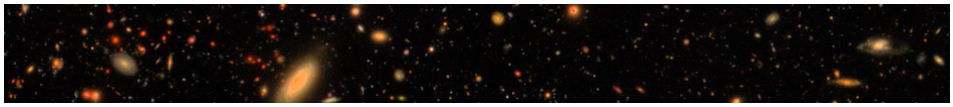

Contribution ID: **9** Type: **not specified**

Probing ultra-light dark matter with lensed gravitational waves

Tuesday, 28 March 2023 17:40 (20 minutes)

Probing cosmic structures with gravitational wave lensing Just like light, gravitational waves (GWs) are deflected and magnified by the large-scale structure of the Universe. Their low frequency, phase coherence and capacity to propagate with no absorption make GW lensing highly complementary to gravitational lensing of electromagnetic radiation. I will discuss the framework of lensing in the wave optics regime and describe some of the opportunities that strong lensing of GWs will open to probe the matter distribution, including novel tests for ultra-light dark matter. The rich phenomenology of GW lensing will greatly benefit with the rapidly increasing rate of GW detections.

Presenter: ZUMALACARREGUI, Miguel

Session Classification: Afternoon session-3