Contribution ID: **86** Type: **not specified**

Testing the equivalence principle on cosmological scales

Tuesday 7 December 2021 15:00 (1h 20m)

The weak equivalence principle is one of the cornerstones of general relativity. Its validity has been tested with impressive precision in the Solar System, with experiments involving baryonic matter and light. However, on cosmological scales and when dark matter is concerned, the validity of this principle is still unknown. In this talk I will show how relativistic effects in the large-scale structure can be used to test whether dark matter obeys the weak equivalence principle. I will present forecasts for this new test of gravity for future surveys like the SKA.

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