

**Peter Wolf - Oscillating dark
matter: experiments and data
analysis at SYRTE**

**Rapport sur les
contributions**

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Oscillating dark matter: experiments and data analysis at SYRTE

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In the standard current cosmological model cold dark matter (DM) accounts for about 23% of the energy of the universe and about 83 % of it's matter content. It is postulated in order to explain numerous astronomical and cosmological observations, and is assumed to exist e.g. in our galaxy and in our solar system. In ~2015 and the following years first publications described the possibility that dark matter fields might introduce local oscillations or transient variations of fundamental constants that could be measured by atomic clocks and/or ultrastable oscillators. I will describe some experiments and data analysis of searches for such DM at SYRTE and in collaborations involving SYRTE, that took place between 2015 and today and are partly still ongoing, unfortunately with no positive detection event so far. For the sake of keeping in time, I will concentrate on oscillating DM, and only briefly mention transient DM searches.

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