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Title: Period-luminosity relations in semi-regular variables? Just solar-like oscillations
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Abstract: authors = Mosser + Meudon asteroseismology group

With Kepler observations spanning more than 3 years, we have now access to red giants oscillations at very low frequency, so that we can observe giants at the tip of the red giant branch and on the asymptotic branch. Such oscillations were observed from the ground by microlensing surveys, as OGLE for instance. They have been suspected as solar-like oscillations, but oscillation modes have never been unambiguously identified.

With a novel method, we can fully identify the low-degree modes in these stars, with periods as long as 100 days. Thus, we can expand scaling relations at very low frequency, identify each branch of the different sequences of the period-luminosity relations, and propose a calibration of the K magnitude with the observed frequency large separation. The link with ground-based data provide new insights for explaining period-luminosity relations in M giants. It opens the door of extragalactic asteroseismology.