## Measuring magnetic fields in cores of red giant stars with asteroseismology

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In recent years, magnetic fields have been thought of as a promising explanation for the transport of angular momentum in stars, for which asteroseismic observations differ significantly from the expected behavior, especially in red giants. Thankfully, the first measurements of core magnetic fields have been made for a handful of red giants, offering significant insight on the structure and intensity of these fields.

We analyzed around 200 red giants that showed abnormal values in usually well-determined seismic parameters. For these, we rigorously identified dipolar mode frequencies in their oscillation spectra, and used a Bayesian inference method to measure magnetic field intensities and assess the significance of these detections.

We find that we can confidently add 22 more stars to the already existing catalogue of core magnetic field detections, expanding the sample by around 50%.

These measurements offer significant insight on the formation and evolution of these fields. Some of the detections could also provide interesting information on possible instances of mass transfer phenomena among red giants and will globally help us understand the prevalence of internal magnetic field in stars. The seismic analysis methods we are developing will be directly applicable to the PLATO data. Indeed, PLATO will greatly increase the number of red giants for which we can search for seismic signatures of a magnetic field. It will provide new constraints to understand the origin of those fields and their roles in the transport of angular momentum inside stars.