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# Chemical characterisation of the X-shooter Spectral Library (XSL): [Mg/Fe] and [Ca/Fe] abundances

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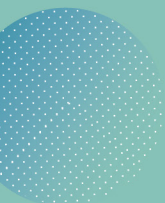
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## Abstract

**Context.** The X-shooter Spectral Library (XSL) is a large empirical stellar library used as a benchmark for the development of stellar population models. The inclusion of  $\alpha$ -elements abundances is crucial to disentangling the chemical evolution of any stellar system.

**Aims.** The aim of this paper is to provide a catalogue of high-precision and accurate magnesium and calcium abundances from a wide variety of stars well distributed in the Hertzsprung-Russell (HR) diagram.

**Methods.** We originally performed an analysis of the derived Mg and Ca abundances for medium-resolution spectra of 611 stars from the XSL Data Release 2. For this purpose, we used the GAUGUIN automated abundance Results. We have finally obtained precise  $[\text{Mg}/\text{Fe}]$  and  $[\text{Ca}/\text{Fe}]$  abundances for 192 and 217 stars respectively, from which 174 stars have measurements in both elements. The stars cover a broad range of effective temperature.

**Conclusions.** This catalogue is suitable for improving the modelling of evolutionary stellar population models with empirical  $\alpha$ -enhancements, which could significantly contribute to the analysis of external galaxies

**Key words.** stars:abundances – methods: data analysis – techniques: spectroscopic.

