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## Relative abundance diagnostics with SPICE, the EUV spectrometer on-board Solar Orbiter

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With the launches of Parker Solar Probe and Solar Orbiter, we are closer than ever to linking solar activity on the surface and in the corona to the inner heliosphere. In this quest, relative abundance measurements will be key as different structures on the Sun have different abundances as a consequence of the FIP (First Ionization Potential) effect.

Comparing in-situ and remote sensing composition data, coupled with modeling, will allow us to trace back the source of heliospheric plasma. Solar Orbiter has a unique combination of in-situ and remote sensing instruments that will hopefully allow us to make such comparisons.

High telemetry will not always be available with SPICE (SPectral Imaging of the Coronal Environment), the EUV spectrometer on board Solar Orbiter. We have therefore developed a method for measuring relative abundances that is both telemetry efficient and reliable. Unlike methods based on Differential Emission Measure (DEM) inversion, the Linear Combination Ratio (LCR) method does not require a large number of spectral lines. This new method is based on optimized linear combinations of only a few UV spectral lines. We present some abundance diagnostics applied to synthesized radiances of spectral lines observable by SPICE.