First data for abundance diagnostics with SPICE, the EUV spectrometer on-board Solar Orbiter

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Linking solar activity on the surface and in the corona to the heliosphere is one of Solar Orbiter’s main goals. Its EUV spectrometer SPICE (SPectral Imaging of the Coronal Environment) will provide relative abundance measurements which will be key in this quest, as different structures on the Sun have different abundances as a consequence of the FIP (First Ionization Potential) effect. From the 16th to the 22nd of November 2020, the Solar Orbiter remote sensing checkout window STP-122 was carried out. During this period of observations, SPICE was lucky to catch a small AR in its field of view. We carried out abundance specific observations in order to provide relative FIP bias measurements with SPICE. Furthermore, data from other types of observations carried out during that same week allow us to identify the spectral lines that could be used for abundance diagnostics. We take the SPICE instrument characteristics into account to give recommendations regarding the types of studies to carry out to obtain such abundance measurements.