

WST - the Wide-field Spectroscopic Telescope: surveying the Universe in the 2040's and beyond



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Three-dimensional structure and chemo-dynamical evolution of the Milky Way

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Galactic studies are currently undergoing a renaissance, thanks to the wealth of data from the Gaia satellite and ground-based surveys. Stellar positions, motions and chemical abundances have been mapped with unprecedented detail. Vertical disturbances, streaming motions, wave-like features and arches in the velocity space have been revealed on a large scale, triggering new interest and questions into the physical mechanisms regulating the dynamical evolution of the Galaxy. At the same time, significant progress has been made towards the mapping of stars in configuration space, opening a new window on the large-scale spiral structure of the Milky Way. In this talk, I will give an update on the latest results about the structure and chemo-dynamical evolution of the Milky Way. I will also discuss future perspectives, and what we hope to learn in the coming years about the Milky Way and its place in the Universe thanks to WST and upcoming stellar surveys.

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Session Classification: Origin of the Solar System, planets, stars and the Milky Way