

On the Integral Field Spectroscopy as a promissory technique in Remote Sensing

The Integral Field Spectroscopy - IFS has emerged as a powerful technique in modern astronomy, offering simultaneous spatial and spectral information of celestial objects, showing remarkable potential as a technique for remote sensing applications. In this talk, We will give a comprehensive review of the state-of-the-art advancements in IFS instrumentation, data processing, and scientific applications, discussing its fundamental principles, highlighting key instruments and their capabilities, exploring cutting-edge data analysis techniques, and showcase the scientific breakthroughs enabled by IFS across various fields of astrophysics and observational cosmology. Therefore, We will examine how IFS could be used in remote sensing, showing the advantages of this technology over traditional remote sensing techniques, exploring recent advancements in this field, and showing the advantages to incorporate Integral Field spectrographs to the optical systems that are part of the Earth, Moon and Planets observation Satellites.

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