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# Doppler cross-correlation spectroscopy as a path to the detection of Earth-like planets. - From CORAVEL to ESPRESSO via ELODIE -

Plenary Session

 Monday, June 27th 2022  15:30 - 16:00  AUDITORIUM 1

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In the middle of the 20th century, a paradigm shift appeared concerning the expected frequency of planetary systems in the galaxy ... a shift induced by the observation of the rotational velocities of low main sequence stars (Struve 1952)! At the same time, Felgett (1955) proposed to concentrate the diluted Doppler information on several tens of thousands of absorption lines to allow the precise measurement of stellar velocities. This idea improved the efficiency of radial velocity measurements by a factor of over 1000. Gradually the accuracy of the new generation of spectrographs using cross-correlation is improved from 300 m/s to 0.1 m/s. ... An idea that will contribute in an important way to the discovery of 51 Pegasi b. Will visible or infrared cross-correlation spectrographs today be able to detect rocky planets in the habitable zone associated with their host star?