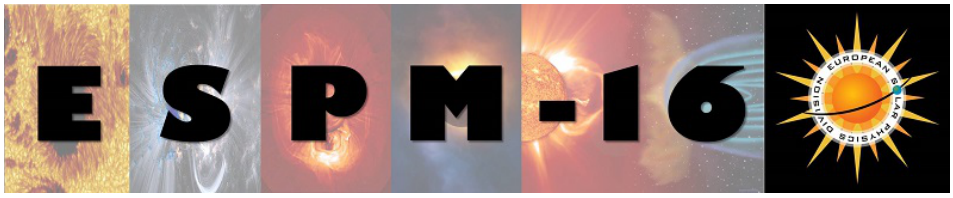

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Long-Term Evolution of Three Light Bridges Developed on the Same Sunspot

Wednesday, 8 September 2021 15:05 (13 minutes)

Light bridges (LBs) are elongated and bright structures that seem to be related to the formation and evolution of sunspots. In this contribution, we present the results of long-term evolution of different atmospheric parameters of three LBs formed in the same host sunspot by different mechanisms. We have used data taken with the GREGOR Infrared Spectrograph installed at the GREGOR telescope. These data were inverted to infer the physical parameters of the atmosphere where the observed spectral profiles were formed. In particular we focus on the magnetic field strength, inclination, and temperature values of the LB as well as its comparison to the surrounding umbra and penumbra. We found that the general behaviour of the three LBs is typical of this kind of structures with the magnetic field strength, inclination, and temperature values between the values at the umbra and the penumbra. In addition, each LB show particular behaviours that are likely related to the different nature of each LB.

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