

Workshop

Imaging of Stellar Surfaces

ESO Garching, March 5-9, 2018

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Title:

Imaging the photosphere of Betelgeuse with spectropolarimetry

Abstract:

Linear polarization in the atomic spectral lines of Betelgeuse is due to the scattering depolarization of the continuum in the low photosphere. After integration over the stellar disk, the survival of a residual maps the existence of inhomogeneities in the surface of Betelgeuse. From such signals we image the photosphere of Betelgeuse and we identify convective structures: granulation or super-granulation. After 4 years of accumulating data, we are able to measure the typical spatial scales of those convective structures and their dynamics in the low photosphere.