
Imaging the photosphere of Betelgeuse

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Abstract

Linear polarization in the atomic spectral lines of Betelgeuse has been interpreted as scattering depolarization of the continuum in the low photosphere. After integration over the stellar disk, the survival of a residual implies the existence of inhomogeneities in the surface of Betelgeuse. We map those inhomogeneities that we identify as convective structures: granulation or super-granulation. After 4 years of accumulating data, we start measuring the spatial scales of those convective structures and their dynamics in the low photosphere.

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