

# Stellar surfaces through the looking-glass

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Stellar convection plays an important role in many astrophysical processes, including energy transport, pulsation, dynamos and winds on evolved stars. A direct characterization of convective structures in terms of size, contrast, and life-span is quite challenging because stars are still pretty far and convective patterns are small.

Most of our knowledge about stellar convection comes from studying the Sun. On the surface of our star a couple of millions of convective cells are observed, each one with a size of about 2000 km. Following predictions dating back to the '70, the surface of evolved stars (or a Sun at later evolutionary stage) is expected to be populated by only a few large convective cells several tens of thousand times the size of the solar ones. Such predictions were confirmed at the end of last decade by direct observations of the stellar surface of the low mass Asymptotic Giant Branch Stars  $\pi$ 1 Gruis. More recently the models are being challenged when it comes to more massive objects like the Red Supergiants.

In this talk I will review the recent results obtained using high angular resolution techniques to resolve the surface of stars, and I will discuss the various scenarios used to interpret the images. Are we really looking at convection?

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