

Workshop

Stellar End Products: The Low Mass - High Mass Connection

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Title:

Surface Features with VLTI

Abstract:

We have known for years that spots and asymmetric mass ejection must characterise the surface of giant and supergiant stars. We then observed the signature of these “asymmetries” with lunar occultations and interferometry. However the interpretation of these structures have been quite challenging because we were limited to the Fourier space and we had no suitable 3D model atmospheres.

Thanks to PIONIER, VLTI was recently transformed in an “imaging machine”. We can finally observe the surface of these stars resolved like the surface of our Sun. In this talk I will give an overview of the recent advances from optical and infrared interferometry in unveiling surface structures on the photosphere of giant and supergiant stars. I will briefly discuss the challenges of image reconstruction, and I will conclude highlighting how our field of research will benefit from the synergy of the current interferometric instrument(s) with the second generation VLTI facilities GRAVITY and MATISSE.