

**EVOLUTION OF STARS:  
THE PHOTOSPHERIC ABUNDANCE CONNECTION**

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Modern astrophysics must answer two fundamental questions: why many stars have almost the same chemical composition as the Sun and why such a large fraction of them have peculiarities, very different from solar chemistry. The peculiarities become tracers of nuclear reactions and hydrodynamical processes going on inside individual stars. The book includes about forty review papers written by leading experts in the field. These reviews almost completely cover this topic of modern astrophysics.

Many new important results relating to the chemical diagnostic of stellar evolution were included in the reviews. Mechanisms to get the products of nuclear burning to the stellar surface have been discussed in detail: convective and turbulent mixing, mass loss, meridional circulation, mass exchange in binaries et al. The results of the competition between particle diffusion and these processes appear at the surface of subdwarfs, white dwarfs, halo stars as well as many main sequence F, A, and B stars.

This book contains only the invited reviews held at the meeting.