$\fbox{IIL2}$ The λ Bootis stars

E. Paunzen

Institute for Astronomy, Vienna University, Türkenschanzstrasse 17, A-1180 Vienna, Austria

In this talk a comprehensive overview for the group of λ Bootis stars is presented. This small group (only a maximum of 2% of all objects in the relevant spectral domain) of objects comprise of Population I, late B to early F-type stars, with moderate to extreme (up to a factor 100) surface underabundances of most Fe-peak elements and solar abundances of lighter elements (C, N, O, and S). They form a separate group among the classical chemically peculiar objects of the upper main sequence although their underabundances are quite outstanding. The basic membership criteria as well as the developed theories to explain the λ Bootis phenomenon are covered. New observations including detailed elemental (surface) abundances, tests for pulsational instability, fluxes in the IR region and measurements from the Hipparcos satellite allow to make a statistical sound analysis of the group properties. Details of the evolutionary status, abundance pattern and tests for developed theories are presented.

8 I: The A-star laboratory