
Stellar abundance patterns. From quantity to quality.

Alexander Yushchenko

Astrophysical Research Center for the Structure and Evolution of the
Cosmos Sejong University, Korea

Modern big telescopes, high-resolution spectrographs, receivers, software and atomic data permit to find the abundances of 50-60 chemical elements in the atmospheres of sharp-lined stars. Abundance patterns of this size permits to make a qualitative step in the investigations of stellar spectra. We present a review of the detailed abundance determinations in Procyon (55 elements), Sirius (50 elements), mild barium star zeta Cyg (51 element), delta Sct (52 elements), Przybylski's star (>60 elements), thorium rich halo star HD221170 (43 elements), SB2 system HD153720 (23 elements) and new astrophysical results obtained from these data. Results are based on observations obtained at 2-m telescope of Terskol Observatory, 2.7-m McDonald telescope, 3.6-m ESO telescope and VLT.