

CONTENTS

Preface	9
<i>I.I. Romanyuk</i> The Zeeman effect in stellar spectra	11
<i>K. Stepien</i> First two decades of the stellar magnetism — a personal view	26
GENERAL PROBLEMS OF STELLAR MAGNETIC FIELDS	
<i>J.-L. Leroy</i> Modeling Ap stars with the help of linear polarimetry	30
<i>Yu. N. Gnedin, T.M. Natsvlishvili</i> Magnetic fields in close binary systems	40
<i>G.A. Wade</i> Magnetic models for A and B stars: some recent results	55
<i>G.A. Wade, G.M. Hill, N. Manset, P. Bastian</i> Are we justified in ignoring the effects of weak magnetic fields when Doppler imaging Ap stars?	64
<i>E. Gerth, Yu.V. Glagolevskij, G. Scholz</i> Integral representation of the surface structure of the stellar magnetic field	67
<i>I.Yu. Alekseev, R.E. Gershberg</i> The spottedness of red dwarf stars	76
<i>Yu.V. Glagolevskij</i> On the evolution of chemical abundance of CP stars with age	84
<i>N.G. Beskrovnaya, M.A. Pogodin</i> Theoretical traces of the linear polarization parameters for a star with a rotating magnetized jet	89
<i>M.A. Pogodin</i> Examples of calculating procedure for the "edge-on" oriented envelope	98
MAGNETIC FIELDS OF DIFFERENT TYPE STARS	
<i>I.I. Romanyuk, V.G. Elkin, G.A. Wade and J.D. Landstreet</i> The very strong and complex magnetic field of the He-strong star HD 37776	101
<i>V.G. Elkin, G.A. Wade</i> The longitudinal magnetic field of the Ap star HD 47103	106
<i>V.D. Bychkov, L.Yu. Kostynchuk, V.G. Shtol'</i> Magnetic field variability of HD 96707	110
<i>T.A. Ryabchikova, S.J. Adelman, W.W. Weiss, R. Kuschnig</i> On the magnetic field of roAP star Gamma Equulei	114
<i>Yu.V. Glagolevskij, G.A. Chountonov</i> Search for magnetic stars among young Herbig Ae/Be stars	116
<i>V.G. Elkin</i> Magnetic fields of hot subdwarfs	122
<i>V.D. Bychkov, D.N. Monin, S.N. Fabrika, G.G. Valyavin</i> A magnetic field function of main sequence stars	124
<i>G.G. Vayavin, D.N. Monin, T.A. Burlakova, S.N. Fabrika, V.D. Bychkov</i> Magnetic observations of the white dwarfs with the BTA Main Stellar Spectrograph	127

<i>S.N. Fabrika, G.G. Valyavin</i> White dwarfs magnetic field function	132
<i>G.G. Valyavin, S.N. Fabrika</i> Temperature dependence of white dwarfs magnetic fields	135
<i>N.N. Somov</i> Special algorithm for investigations of narrow-band spectral oscillations	140
<i>N.N. Somov, T.A. Somova, I.D. Najdenov</i> Detection of monochromatic oscillations in optical spectrum of the intermediate polar RE 0751+14	141

SPECTROSCOPY OF PECULIAR STARS

<i>V.V. Leushin, G.P. Topilskaya, F.A. Musaev</i> Physical conditions and nature of chemical anomalies in the atmosphere of Sirius A	143
<i>G.P. Topilskaya</i> Abundance of helium isotopes in CP stars	158
<i>I.I. Romanyuk, G.P. Topilskaya</i> On possible stratification of chemical elements with depth in the atmospheres of CP stars	170
<i>J. Budaj, V.G. Elkin, I.I. Romanyuk, G.A. Wade, J. Ziznovsky, J. Zverko</i> Statistical analysis of the influence of binarity on the Ap phenomenon. Progress report	176
<i>D.E. Mkrtychian, N.N. Samus, N.A. Gorynya</i> The radial velocities of the uncommon SrCrEu magnetic star 49 Camelopardalis	185

POSTER PAPERS

<i>N.A. Sokolov</i> Balmer jump variations of HD 215441 (Babcock's star)	190
<i>V.G. Shtol', V.D. Bychkov, L. Eric, V.G. Elkin</i> Omega UMa magnetic field measurements	193
<i>S.N. Udovichenko, V.G. Shtol', G.G. Valyavin</i> Magnetic measurements of Delta Scuti-type stars	195
<i>V.D. Bychkov, V.G. Shtol', S. Hubrig</i> Possible presence of a weak magnetic field in the HgMn star 33 Geminorum	197
<i>V.D. Bychkov, V.G. Shtol'</i> New period for the magnetic star Gamma Equulei	200
<i>G.A. Chountonov</i> Mean magnetic field modulus of Gamma Equulei	203
<i>V.D. Bychkov, E. Gerth, R. Kroll, V.G. Shtol'</i> Long-period magnetic variability of HD 9996	204
<i>V.G. Shtol', V.G. Elkin, I.I. Romanyuk</i> Magnetic field of the star Epsilon UMa=HD 112185	207
<i>V.G. Shtol', G.G. Valyavin, S.N. Fabrika, V.D. Bychkov, V.A. Stolyarov</i> Magnetic field variations of the white dwarf PG 1658+441	211
<i>S.N. Fabrika, V.G. Shtol', G.G. Valyavin, V.D. Bychkov, A.A. Panferov</i> Magnetic measurements of white dwarfs	216
<i>M. Hack, N. Polosukhina, P. North, J. Zverko, J. Ziznovsky, I. Iliev, V. Malanushenko, F. Castelli, M. Gelbman</i> International project - lithium in magnetic stars	220
<i>G.A. Chountonov, Yu. V. Glagolevskij</i> CCD detector on the Main Stellar Spectrograph	225
<i>G.A. Chountonov, V.G. Orlov</i> Back-and-forth spectropolarimetry: computer simulation	227
<i>G.A. Chountonov</i> Fibre-optic spectropolarimeter for the 6 m telescope	228
<i>G.A. Chountonov</i> Analyzer of polarization using the Mooney rhomb	229

V.D. Bychkov, Yu.N. Gnedin **Fast polarimeter for faint objects** 230

V.G. Shtol', V. Zinkovskij, N.A. Vikul'ev **A deflector spectrophotometer on the basis of the BTA hydrogen-line magnetometer** 232

K. Stepien **Summary** 235