YAROSLAVL
PEDAGOGICAL BULLETIN

A series "Physics and mathematics and natural sciences"
№ 1-2010

THE CONTENT

MATHEMATICS

A.V. Lebedev ASYMPTOTIC BEHAVIOUR OF EXTREMAS OF CASUAL SIGNS OF PARTICLES IN BRANCHING PROCESSES WITH HEREDITY **7**

A.V. Lebedev ABOUT DISTRIBUTION OF THE SIZES EXCESS CLUSTERS IN RECURRENT SEQUENCES WITH LOG-MECHANICAL FACTORS **14**

E.I. Smirnov HAUSDORFF SPECTRA AND SHEAVES OF LOCALLY CON-VEX SPACES **18**

Ju.V.Bondarenko STRONG CONDITION SHOKE FOR CONES IN SPACE OF FUNCTIONS **30**

M.A. Bashkin EVEN-HOMOGENEOUS NON-SPLIT TORUS SUPERVARIETIES WITH RETRACT $\mathbf{CP}^{1|4}_{k+1k31}$ AT $k \geq 3$ **38**

V.F. Chaplygin STAGE-BY-STAGE FORMATION OF INTELLECTUAL ACTIONS AND CONCEPTS **41**

APPLIED MATHEMATICS

V.F. Bez'yazychny MATHEMATICAL METHODS IN TECHNOLOGY OF MECHANICAL ENGINEERING **45**

O.V. Vinogradova APPLICATION OF MATHEMATICAL METHODS FOR THE STOCHASTIC PROBLEM SOLUTION IN AVIAMOTORBUILDING **50**

L.P. Razmolodin, I.I. Ryzhakov MATHEMATICAL MODELLING OF DIFFUSION PROCESSES ON THE BASIS OF KOLMOGOROV-OBUKHOV'S LAW **55**

PHYSICS

S.V. Bolokhov ON THE CONFORMAL GENERATION OF FERMION MASSES IN THE 8-DIMENSIONAL KALUZA-KLEIN MODEL **58**

A.S. Kiselyov COSMOLOGICAL PROBLEM IN FIVE-MEASURED SPACE-TIME **65**

V.A. Korotky HOW TO FIND OUT COSMOLOGICAL ROTATION **68**

V.G. Krechet ASTROPHYSICAL EFFECTS OF GRAVITATIONAL INTERACTION OF VORTICAL FIELDS **72**

V.G. Krechet, E.Ju. Orlova FIVE-MEASURED COSMOLOGICAL MODELS WITH SPINOR FIELDS **77**

I.V. Sandina SYSTEM OF ROTATING BODIES AND PRESERVATION LAWS IN GENERAL THEORY OF RELATIVITY **82**

BIOLOGY

L.V. Voronin, T.F. Tschernyakovskaya MICROORGANISMS COMPLEXES SUCCESSIONS JN DECAING LEAVES OF NUPHAR LUTEA IN THE SMALL RIVER LATKA **87**

L.V. Voronin NUPHAR LUTEA (L.) SMITH PHYLLOPLANE FUNGI IN SMALL RIVERS OF RYBINSK RESERVOIR BASIN **91**

E.A.Batalova, A.V.Muraviov, P.V.Mikhailov ROLE OF RED BLOOD CELL (RBC) CONCENTRATION IN THE BLOOD FLUIDITY CHANGES AND ITS TRANSPORT POTENTIAL **95**

GEOGRAPHY

A.M. Zhikharev, O.I. Zhikhareva ACCOUNT DISPLAY OF NATURAL-TERRITORIAL ORIGINALITY AT WORKING OUT CLASSIFICATION OF SMALL RIVERS WITH THE HELP OF MATHEMATICAL ANALYSIS METHODS **102**

V.I. Presnukhin COMPLEX RESEARCHES OF ENGINEERING-GEOLOGICAL, HYDRO-GEOLOGICAL CONDITIONS AND ECOLOGICAL CONDITIONS OF LAKE PLESHCHEEVO AND NEIGHBOURING TERRITORIES **108**

CHRONICLE AND INFORMATION

V.V. Afanasyev, A.A. Solovyova FROM THE HISTORY DEPARTMENT GEOMETRY **112**

INFORMATION ABOUT THE AUTHORS **119**