

Contents

The Unusual Sunspot Minimum: Challenge to the Solar Dynamo Theory	1
V.N. Obridko, Yu.A. Nagovitsyn, and Katya Georgieva	
The Evolution of Cyclic Activity of the Sun in the Context of Physical Processes on Late-Type Stars	19
Maria M. Katsova	
Long-Term Variations of the Solar Supergranulation Size According to the Observations in CaIIK Line	33
A.G. Tlatov	
On the Problem of Heat Transport in the Solar Atmosphere	39
A.V. Oreshina, O.V. Ptitsyna, and B.V. Somov	
Dynamics of the Electrical Currents in Coronal Magnetic Loops	47
V.V. Zaitsev, K.G. Kislyakova, A.T. Altyntsev, and N.S. Meshalkina	
Observations of Solar Flares from GHz to THz Frequencies	61
Pierre Kaufmann	
On the Interaction of Solar Rotational Discontinuities with a Contact Discontinuity Inside the Solar Transition Region as a Source of Plasma Heating in the Solar Corona	73
S.A. Grib and E.A. Pushkar	
Complex Magnetic Evolution and Magnetic Helicity in the Solar Atmosphere	83
Alexei A. Pevtsov	
On Our Ability to Predict Major Solar Flares	93
Manolis K. Georgoulis	

Chromospheric Evaporation in Solar Flares	105
Zongjun Ning	
Evolutionary of Discontinuous Plasma Flows in the Vicinity of Reconnecting Current Layers	117
L.S. Ledentsov and B.V. Somov	
Analytical Models of Generalized Syrovatskii's Current Layer with MHD Shock Waves	133
S.I. Bezrodnykh, V.I. Vlasov, and B.V. Somov	
Solar Convection and Self-Similar Atmosphere's Structures	145
A.A. Agapov, E.A. Bruevich, and I.K. Rozgacheva	
SDO in Pulkovo Observatory	155
E. Benevolenskaya, S. Efremov, V. Ivanov, N. Makarenko, E. Miletsky, O. Okunev, Yu. Nagovitsyn, L. Parfinenko, A. Solov'ev, A. Stepanov, and A. Tlatov	
Variations of Microwave Emission and MDI Topology in the Active Region NOAA 10030 Before and During the Power Flare Series ...	165
I.Yu. Grigoryeva, V.N. Borovik, N.G. Makarenko, I.S. Knyazeva, I.N. Myagkova, A.V. Bogomolov, D.V. Prosovetsky, and L.M. Karimova	
Scenario of Evolution of the Epoch of Minimum at the Final Stage of Cycle 23	179
N.A. Lotova and V.N. Obridko	
Solar Magnetic Fields as a Clue for the Mystery of the Permanent Solar Wind and the Solar Corona	189
M.A. Mogilevsky and K.I. Nikolskaya	
Two Types of Coronal Bright Points in the 24-th Cycle of Solar Activity	197
Chori T. Sherdanov, Ekaterina P. Minenko, A.M. Tillaboev, and Isroil Sattarov	
The Self-Similar Shrinkage of Force-Free Magnetic Flux Ropes in a Passive Medium of Finite Conductivity	203
A.A. Solov'ev	
Solar Activity Indices in the Cycles 21–23	221
A. Borisov, E. Bruevich, I. Rozgacheva, and G. Yakunina	
Coronal Mass Ejections on the Sun and Their Relationship with Flares and Magnetic Helicity	229
G.A. Porfir'eva, G.V. Yakunina, V.N. Borovik, and I.Y. Grigoryeva	

The Sun: New Challenges

Proceedings of Symposium 3 of JENAM 2011

Obridko, V.N.; Georgieva, K.; Nagovitsyn, Y.A. (Eds.)

2012, VIII, 240 p., Hardcover

ISBN: 978-3-642-29416-7