

PHYSICS– USPEKHI

English edition of *Uspekhi Fizicheskikh Nauk*
May 2010 Volume 180 Number 5

Contents

Volume 53
Number 5
2010
Pages 431–536

REVIEWS OF TOPICAL PROBLEMS	
Large-radius bipolaron and the polaron–polaron interaction	431
N I Kashirina, V D Lakhno	
INSTRUMENTS AND METHODS OF INVESTIGATION	
Invisible cloaking of material bodies using the wave flow method	455
A E Dubinov, L A Mytareva	
METHODOLOGICAL NOTES	
Properties of acoustic polarization vectors in crystals and the phonon Hall effect	481
L A Maksimov, T V Khabarova	
CONFERENCES AND SYMPOSIA	
Seventy years of the Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Waves Propagation (IZMIRAN)	487
(Scientific session of the Physical Sciences Division of the Russian Academy of Sciences, 25 November 2009):	
Advances in quantum magnetometry for geomagnetic research	487
E B Aleksandrov	
Cosmic ray variations and space weather	496
L I Dorman	
Global electric circuit research: achievements and prospects	504
E A Mareev	

Continued overleaf

Contents continued

Geophysical research in Spitsbergen Archipelago: status and prospects V V Safargaleev, E D Tereshchenko	511
Results of solar wind and planetary ionosphere research using radiophysical methods [N A Armand], Yu V Gulyaev, A L Gavrik, A I Efimov, S S Matyugov, A G Pavelyev, N A Savich, L N Samoznaev, V M Smirnov, O I Yakovlev	517
Satellite radio probing and radio tomography of the ionosphere V E Kunitsyn, E D Tereshchenko, E S Andreeva, I A Nesterov	523
Space research at the Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, Russian Academy of Sciences V D Kuznetsov	528
Physics news on the Internet Yu N Eroshenko	535