

PHYSICS- USPEKHI

English edition of *Uspekhi Fizicheskikh Nauk*
March 2009 Volume 179 Number 3

Contents

Volume 52 Number 3 2009 Pages 209 – 314	REVIEWS OF TOPICAL PROBLEMS	
	Transport properties of carbon nanotubes	209
	A V Eletskii	
	FROM THE CURRENT LITERATURE	
	Fabrication techniques of electrode arrays for carbon nanotubes	225
	A I Vorob'eva	
	METHODOLOGICAL NOTES	
	Delusions versus reality in some physics problems: theory and experiment	235
	P S Landa, D I Trubetskov, V A Gusev	
	Is it possible to see the infinite future of the Universe when falling into a black hole?	257
	A A Grib, Yu V Pavlov	
	Para-Lorentz transformations	263
	G B Malykin	
	FROM THE HISTORY OF PHYSICS	
	The physics of a thermonuclear explosion of a normal-density liquefied deuterium sphere	267
	G I Marchuk, V S Imshennik, M M Basko	

Continued overleaf

CONFERENCES AND SYMPOSIA

**On the 40th anniversary of the Institute of Spectroscopy
of the Russian Academy of Sciences** **275**

(Scientific session of the Physical Sciences Division
of the Russian Academy of Sciences, 8 October 2008)

V I Balykin; A N Ryabtsev, S S Churilov; Yu E Lozovik;
E A Vinogradov, B N Mavrin, N N Novikova, V A Yakovlev;
B S Dumesh, A V Potapov, L A Surin; A V Naumov, Yu G Vainer;
O N Kompanets, Yu M Yevdokimov

Atom optics and nanotechnology **275**
V I Balykin

Spectroscopy of ionized atoms for astrophysics and nanotechnology **282**
A N Ryabtsev, S S Churilov

**Strong correlations and new phases in a system
of excitons and polaritons. A polariton laser** **286**
Yu E Lozovik

Inverted optical phonons in ion-covalent crystals **290**
E A Vinogradov, B N Mavrin, N N Novikova, V A Yakovlev

**Spectroscopy of small helium clusters and ‘nanoscopic’ superfluidity:
He_N-CO, N=2–20...** **294**
B S Dumesh, A V Potapov, L A Surin

**Single molecules as spectral nanoprobe for the diagnostics
of dynamic processes in solid media** **298**
A V Naumov, Yu G Vainer

**Optical biosensors of genotoxicants based on DNA nanoconstructions
and portable dichrometers** **304**
O N Kompanets, Yu M Yevdokimov

BIBLIOGRAPHY

New books on physics and related sciences **311**
E V Zakharova

Physics news on the Internet **313**
Yu N Eroshenko