

# PHYSICS- USPEKHI

English edition of *Uspekhi Fizicheskikh Nauk*  
November 2005 Volume 175 Number 11

## Contents

<b>Volume 48</b> <b>Number 11</b> <b>2005</b> <b>Pages 1093–1204</b>	REVIEWS OF TOPICAL PROBLEMS	
	<b>Gauge theories as string theories: the first results</b>	1093
	A S Gorsky	
	<b>Sky surveys and deep fields of ground-based and space telescopes</b>	1109
	V P Reshetnikov	
	INSTRUMENTS AND METHODS OF INVESTIGATION	
	<b>The ambipolar trap</b>	1129
	G I Dimov	
	<b>Water surface structures observed using infrared imaging</b>	1151
	G R Ivanitskii, A A Deev, E P Khizhnyak	
	<b>NMR potentials for studying physical processes in fossil coals</b>	1161
	A D Alexeev, E V Ulyanova, T A Vasilenko	
	FROM THE HISTORY OF PHYSICS	
	<b>One hundred years of the photon</b>	1177
	V P Milant'ev	
	<b>The extraordinarily beautiful physical principle of thermonuclear charge design</b>	1187
	(on the occasion of the 50th anniversary of the test of RDS-37 — the first Soviet two-stage thermonuclear charge)	
	G A Goncharov	

*Continued overleaf*

*Contents continued*

PERSONALIA

<b>Vsevolod Feliksovich Gantmakher (on his seventieth birthday)</b>	1197
A A Abrikosov, A F Andreev, L P Gor'kov, V T Dolgoplov, S V Iordanskii, V V Kveder, I B Levinson, Yu A Ossipyan, É I Rashba, V B Timofeev, D E Khmel'nitskii, G M Éliashberg	
<b>Ibragimkhan Kamilovich Kamilov (on his seventieth birthday)</b>	1199
K S Aleksandrov, Zh I Alferov, A F Andreev, A A Boyarchuk, V L Ginzburg, Yu V Gulyaev, V A Zayats, Yu A Izyumov, G A Mesyats, A K Murtazaev, Yu A Ossipyan	
<b>Physics news on the Internet</b>	1203
Yu N Eroshenko	