

# **International Conference on Resonances in Condensed Matter: Altshuler100**

**Journal of Physics: Conference Series Volumes 324**

**Kazan, Russia  
21-25 June 2011**

**ISBN: 978-1-61839-294-7  
ISSN: 1742-6588**

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2011) by the Institute of Physics  
All rights reserved.

Printed by Curran Associates, Inc. (2011)

For permission requests, please contact the Institute of Physics  
at the address below.

Institute of Physics  
Dirac House, Temple Back  
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481  
Fax: 44 1 17 920 0979

[techtracking@iop.org](mailto:techtracking@iop.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

<b>012001 EPR and Development of Quantum Electronics</b> .....	1
<i>A A Manenkov</i>	
<b>012002 Spin Noise Spectroscopy</b> .....	10
<i>E B Aleksandrov, V S Zapasskii</i>	
<b>012003 Dynamic Nuclear Polarization: Yesterday, Today, and Tomorrow</b> .....	19
<i>V A Atsarkin</i>	
<b>012004 Spin Relaxation in Disordered Media</b> .....	28
<i>F S Dzheparov</i>	
<b>012005 the NMR Line Shape of Magneto-active Nanoclusters in Moveable Nano-containers with Self-similar Stochastic Dynamics</b> .....	50
<i>A A Khamzin, R R Nigmatullin, A P Alekhin, A S Sitdikov, A S Nikitin</i>	
<b>012006 Magnon Bose-Einstein Condensation in CsMnF<sub>3</sub> and MnCO<sub>3</sub></b> .....	60
<i>E M Alakshin, Yu M Bunkov, R R Gazizulin, A V Klochkov, V V Kuzmin, A S Nizamutdinov, T R Safin, M S Tagirov</i>	
<b>012007 Direct and Two-phonon Orbach-Aminov Type Spin-lattice Relaxation in Molecular Magnet V<sub>15</sub></b> .....	65
<i>Alex Tarantul, Boris Tsukerblat</i>	
<b>012008 Multi-photon Rabi Oscillations in High Spin Paramagnetic Impurity</b> .....	82
<i>S Bertaina, N Groll, L Chen, I Chiorescu</i>	
<b>012009 Inhomogeneous Broadening of ESR Lines of Rare Earth Impurities in Scheelite CaWO<sub>4</sub> Induced by Internal Electric Field Gradients</b> .....	87
<i>E I Baibekov, I N Kurkin</i>	
<b>012010 Effect of Intramolecular Interaction on Time Growth of Second Moment of Multiple Quantum NMR in Solids</b> .....	92
<i>V E Zobov, A A Lundin</i>	
<b>012011 Ferromagnetic Resonance in Nanostructures, Rediscovering Its Roots in Paramagnetic Resonance</b> .....	100
<i>Klaus Baberschke</i>	
<b>012012 the Magnetic-resonance Properties Study of Nanostructures for Spintronics by FMR</b> .....	112
<i>G Kupriyanova, A Zyubin, A Astashonok, A Orlova, E Prokhorenko</i>	
<b>012013 Fe/Ni Thin Films Temperature Investigation with Mgo and SiO<sub>2</sub> Interfaces by Ferromagnetic Resonance</b> .....	121
<i>A Zyubin, A Orlova, A Astashonok, G Kupriyanova, V Nevolin</i>	
<b>012014 Relaxation Function Theory for Spin Dynamics of Strongly Correlated Layered Copper Oxide Superconductors</b> .....	126
<i>Igor A Larionov</i>	
<b>012015 Features of Magnetic Phase Transitions in EuB<sub>6-x</sub>C<sub>x</sub></b> .....	143
<i>T S Altshuler, Yu V Gorjunov, A V Levchenko, V B Filippov</i>	
<b>012016 Theoretical investigation of NMR spectra in rare-earth manganites</b> .....	149
<i>L E Gonchar, J V Leskova, A E Nikiforov</i>	
<b>012017 Spin Relaxation in Kondo Lattices</b> .....	155
<i>S I Belov, A S Kutuzov, B I Kochelaev</i>	
<b>012018 Motional Narrowing of EPR Line in Kondo-lattice with Heavy Fermions</b> .....	169
<i>Alena Vishina</i>	
<b>012019 ESR Study of Spin Dynamics in the Ternary Phosphide YbRh6P<sub>4</sub></b> .....	175
<i>V A Ivanshin, E M Gataullin, A A Sukhanov</i>	
<b>012020 Investigation of Eu Ternary Pnictide by ESR</b> .....	179
<i>T S Altshuler, Yu V Goryunov, A V Nateprov</i>	
<b>012021 Paramagnetic Curie Temperature of EuB<sub>6-x</sub>C<sub>x</sub> from ESR data</b> .....	184
<i>T S Altshuler, Yu V Goryunov, A V Levchenko</i>	
<b>012022 Possible Mechanisms of Magnon Sidebands Formation in Transition Metal Compounds</b> .....	189
<i>M V Eremin, M A Fayzullin</i>	
<b>012023 Narrowing of the Exciton Lines Using WAHUA Method of Solid State NMR Spectroscopy</b> .....	194
<i>I I Geru</i>	
<b>012024 Manifestation of Non-centrality Effect in the EPR Spectrum of Fe<sup>3+</sup> Ion in the Polycrystalline Materials</b> .....	200
<i>V N Vasyukov</i>	

<b>012025 Hexamer Clusters in MeF<sub>2</sub>:Yb<sup>3+</sup> (Me = Ca,Sr,Ba)</b> .....	214
<i>V A Chernyshev, A E Nikiforov, A D Nazemnikh</i>	
<b>012026 EPR Studies of the Mechanochemically Er<sup>3+</sup>-activated Fluorite Nanoparticles</b> .....	223
<i>I A Irisova, A A Rodionov, D A Tayurskii, R V Yusupov</i>	
<b>012027 Lande Factor of the Conduction Electrons in Silicon: Temperature Dependence</b> .....	230
<i>A A Konakov, A A Ezhevskii, A V Soukhorukov, D V Guseinov, S A Popkov, V A Burdov</i>	
<b>012028 Low Temperature Adsorption of <sup>3</sup>He on Silica Aerogel Surface and Its Influence on <sup>3</sup>He Spin Kinetics</b> .....	234
<i>E M Alakshin, R R Gazizulin, A V Klochkov, V V Kuzmin, M S Tagirov, D A Tayurskii, N Mulders</i>	
<b>012029 Ab Initio Simulation of Effects of Structural Singularities in Aerogel Absorption Potential</b> .....	240
<i>C Debras, D Tayurskii, B Minisini, Y Lysogorskiy</i>	
<b>012030 Stress-induced Orbital Alignment of the Cr<sup>2+</sup> Centers in KZnF<sub>3</sub> Crystal</b> .....	246
<i>I N Gracheva, S I Nikitin, R V Yusupov</i>	
<b>012031 Comparison of Various Correlation Times in Polymer Melts by Molecular Dynamics Simulation</b> .....	253
<i>E M Pestryaev</i>	
<b>012032 Gaussian Fluctuations in an Ideal Bose-gas – A Simple Model</b> .....	271
<i>A Petrova, O Nedopekin, D Tayurskii, Q A Wang</i>	
<b>012033 NMR, High Frequency EPR and Magnetization Studies of YF<sub>3</sub>:Tm<sup>3+</sup> and TmF<sub>3</sub></b> .....	281
<i>A V Savinkov, G S Shakurov, S L Korableva, A V Dooglav, M S Tagirov, H Suzuki, K Matsumoto, S Abe</i>	
<b>012034 <sup>19</sup>F NMR Study of LiTbF<sub>4</sub> Single Crystals</b> .....	285
<i>I V Romanova, A V Egorov, S L Korableva, B Z Malkin, M S Tagirov</i>	
<b>012035 Quadratic Non-Condon Effect in Optical Spectra of Impurity Paramagnetic Centers in Dielectric Crystals</b> .....	295
<i>R Yu Yunusov, O V Solovyev</i>	
<b>012036 Simulations of Magnetic and Magnetoelastic Properties of Tb<sub>2</sub>Ti<sub>2</sub>O<sub>7</sub> in Paramagnetic Phase</b> .....	304
<i>V V Klekovkina, A R Zakirov, B Z Malkin, L A Kasatkina</i>	
<b>012037 on the Interpretation of the Level Structure of the Ground 3d5 Manifold of Mn III, Fe IV, Co V and Ni VI</b> .....	317
<i>A M Leushin</i>	
<b>012038 Spectral Dependence of Nonlinear Optical Absorption of Silica Glass with Copper Nanoparticles</b> .....	325
<i>A N Golubev, S I Nikitin, M A Smirnov, A L Stepanov</i>	
<b>012039 Crystal Electric Field Parameters for Yb<sup>3+</sup> Ion in YbRh<sub>2</sub>Si<sub>2</sub></b> .....	331
<i>A S Kutuzov, A M Skvortsova</i>	
<b>012040 Ab Initio Simulation of Helium Inside Carbon Nanotubes</b> .....	339
<i>D B Timerkaeva, V Stutzmann, B Minisini, D A Tayurskii</i>	
<b>Author Index</b>	