

## Department of Physics & Astronomy

### Publication List

Complete publication lists and years before 2003 can be found on the profile pages of the faculty.

#### 2006

1. *Stray Field Magnetic Resonance Tomography using Ferromagnetic Spheres*  
M.Barbic, A.Scherer  
J. Mag. Res. **181**, 223 (2006)
2. *Angular Dependence of Reversible Transverse Susceptibility in Magnetic Nanoparticles*  
M.Brady, M.Barbic  
IEEE Trans.on Magn. **42**, 3231 (2006)
3. *Radius of gyration of a sphere and a barrel*  
A.Leung  
The Physics Teacher **44**, 222 (2006)
4. *DNA-Origami Technique for Olympic Gels*  
G.T.Pickett  
Europhys.Lett. **76**, 616 (2006)
5. *DNA-Nanotechnology Technique for Monodisperse Synthesis*  
G.T.Pickett  
Macromolecules **39**, 9557 (2006)
6. *Hodge duality and cosmological constant*  
H.Nishino, S.Rajpoot  
Mod.Phys.Lett. **A21**, 127 (2006), hep-th/0404088
7. *Interacting vector-spinor gauge field for nilpotent supersymmetry*  
H.Nishino, S.Rajpoot  
Class. & Quant Grav. **23**, 5215 (2006)
8. *(Curvature)<sup>2</sup>-terms in supergravity in three dimensions*  
H.Nishino, S.Rajpoot  
Phys.Lett.B **639**, 110 (2006)
9. *Broken scale invariance in the standard model*  
H.Nishino, S.Rajpoot  
AIP conference proceedings, Melville Eds., 2006
10. *Nilpotent spinor symmetry with interactions*  
H.Nishino, S.Rajpoot  
Proceedings for SUSY06, 2006
11. *Coulomb-sturmian separable expansion approach to the Faddeev-type integral equations of three-body Coulomb problem in J-matrix method and its applications*  
Z.Papp  
Springer Lecture Notes in Physics, Eds.A.D.Alhaidari, E.J.Heller, H.A.Yamani, M.S.Abdelmonem, Springer Verlag (2006)

12. *Coulomb-sturmian matrix elements of the Coulomb Greens operator*  
F.Demir, Z.T.Hlousek, Z.Papp  
Phys. Rev. A **74**, 014701 (2006)
13. *Positronium annihilation above the positronium formation threshold in  $e(+)-H$  scattering*  
C.Y.Hu, S.L.Yakovlev, Z.Papp  
Phys. Rev. B **247**, 25 (2006)
14. *Efimov resonances in atomic three-body systems*  
J.Z.Mezei, Z.Papp  
Phys. Rev. A **73**, 030701(R) (2006)

## 2005

1. *Magnetic nanostructures as amplifiers of transverse fields in magnetic resonance*  
M.Barbic, A.Scherer  
Sol.State Nucl.Mag.Res. **28**, 91 (2005)
2. *Nanomagnetic planar magnetic resonance microscopy lens*  
M.Barbic, A.Scherer  
Nanoletters **5**, 787 (2005)
3. *Composite nanowire-based probes for magnetic resonance force microscopy*  
M.Barbic, A.Scherer  
Nanoletters **5**, 187 (2005)
4. *Mapping the Current Distribution in YBCO Thin Films with Striations*  
L.B.Wang, M.B.Price, J.L.Young, C.Kwon, George A.Levin, Timothy J.Haugan, Paul N.Barnes  
Physica C **419**, 79 (2005)
5. *The Distribution of Transport Current in the YBCO Coated Conductor with Zipper Striations*  
L.B.Wang, P.Selby, C.Khanal, George Levin, Timothy J.Haugan, Paul N.Barnes, C.Kwon  
IEEE Trans. on Appl. Supercond. **15**, 2950 (2005)
6. *Investigation of Current Percolation Characteristics in Coated Conductors*  
L.B.Wang, G.You, K.R.Barraca, K.Waller, J.M.Mahoney, J.L.Young, and C.Kwon  
IEEE Trans. on Appl. Supercond. **15**, 3676 (2005)
7.  *$p$ - $d$  scattering with nonlocal nucleon-nucleon potential below the breakup threshold*  
P.Doleschall, Z.Papp  
Phys. Rev. C **72**, 044003 (2005)
8. *Accumulation of resonances in three-body Coulombic systems*  
Z.Papp, J.Darai, J.Zs.Mezei, Z.T.Hlousek, C.Y.Hu  
AIP Conference Proceedings **768**, 436 (2005)
9. *Accumulation of three-body resonances above two-body thresholds*  
Z.Papp, J.Darai, J.Zs.Mezei, Z.T.Hlousek, C.Y.Hu  
Phys. Rev. Lett. **94**, 143201 (2005)
10. *Spin dependence and non-locality in NN interactions*  
S.A.Moszkowski, P.Doleschall, Z.Papp  
AIP Conf. proceedings **768**, 72 (2005)

11. *Supermembrane with non-abelian gauging and Chern-Simon quantization*  
H.Nishino, S.Rajpoot  
Eur.Phys.J. C **39**, 389 (2005), hep-th/0309100
12. *Supersymmetric Dirac-Born-Infeld action with self-dual mass term*  
H.Nishino, S.Rajpoot, K.Reed  
Class. & Quant. Grav. **22**, 1553 (2005), hep-th/0410052
13. *Dual vector multiplet coupled to dual N=1 supergravity in 10D*  
H.Nishino, S.Rajpoot  
Phys. Rev. D **71**, 085011 (2005), hep-th/0502089
14. *Alephnull-hypegravity in three dimensions*  
H.Nishino, S.Rajpoot  
Phys. Rev. D **71**, 125002 (2005)
15. *Non-abelian tensor with consistent interactions*  
H.Nishino, S.Rajpoot  
Phys. Rev. D **72**, 085020 (2005), hep-th/0508076

## 2004

1. *Sensitive Measurement of Reversible Parallel and Transverse Susceptibility by Alternating Gradient Magnetometry*  
M.Barbic  
Rev. of Sc. Inst. **75**, 5016 (2004)
2. *Two-Dimensional Magnetic Resonance Tomographic Microscopy using Ferromagnetic Probes*  
M.Barbic, A.Scherer  
J. of Appl.Phys. **95**, 3598 (2004)
3. *Observation of Nonuniform Current Transport in Epitaxial YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> Film Near the Superconducting Transition Temperature*  
L.B.Wang, M.B.Price, J.L.Young, C.Kwon, T.J.Haugan, P.N.Barnes  
Physica C **405**, 240 (2004)
4. *Modified Faddeev-Noble equations for the three-body Coulomb problem*  
J.Darai, J.Zs.Mezei, Z.Papp  
Proceedings of the 23rd International Workshop on Nuclear Theory, Rila Mountains, Bulgaria, 14-19 June, 2004. Ed.: Dimitrova, S.Sofia, Heron Press (Heron Press Science Series),p.159, (2004)

## 2003

1. *Spatial Distribution Analyses of Critical Temperature in Epitaxial Y-Ba-Cu-O Film Using Variable Temperature Scanning Laser Microscopy*  
C.Kwon, L.B.Wang, S.Seo, B.H.Park, Q.X.Jia  
IEEE Trans. on Appl.Supercond. **13**, 2894 (2003)
2. *Variable Temperature Scanning Laser Microscopy of Wider Width High Temperature Superconducting Films*  
L.B.Wang, M.B.Price, C.Kwon, and Q.X.Jia  
IEEE Trans. on Appl.Supercond. **13**, 2611 (2003)

3. *Three-nucleon bound states with phenomenological nonlocal nucleon-nucleon interactions*  
P.Doleschall, I.Borbely, Z.Papp, W.Plessas  
Few-Body Systems. Suppl. **14**, 131 (2003)
4. *Nonlocality in the nucleon-nucleon interaction and three-nucleon bound states*  
P.Doleschall, I.Borbely, Z.Papp, W.Plessas  
Phys. Rev. C **67**, 064005 (2003)
5. *Three-body confinement force in a realistic constituent quark model*  
Z.Papp, Fl.Stancu  
Nucl.Phys. A **726**, 327 (2003)
6. *Linear gradient copolymer melt brushes*  
G.T.Pickett  
J.Chem.Phys. **118**, 3898 (2003)
7. *Hollow-core dendrimers revisited*  
T.C.Zook, G.T.Pickett  
Phys. Rev. Lett. **90**, 015502 (2003)
8. *Dendrimer-dendrimer copolymer melts*  
G.E.Rios, G.T.Pickett  
Macromolecules **36**, 2967 (2003)
9. *Self-consistent field investigation of pattern-forming electroneutral blends of charged polymers*  
W-M.Tam, G.T.Pickett  
Langmuir **19**, 1410 (2003)

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