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Education:

Institute of Problems of Chemical Physics RAS. Sc.D. (Habilitation) in Physics and Mathematics: *High Resolution 2-mm Waveband EPR Spectroscopy in the Study of Biological and Conducting Polymers*, September 1992.

Institute of Problems of Chemical Physics RAS. Ph.D. in Physics and Mathematics: *2-mm Waveband EPR Spectroscopy as a Method of the Study of Paramagnetic Centers in Biological and Organic Polymers*, December 1986.

The Kazan State University. B.S. in Physics: *Microwave Study of Mechanisms of Molecular Dynamics in Liquids*, June 1975.

Experience:

Senior Scientist, 1992-1996; Leading Scientist, 1997 – present. *The Institute of Problems of Chemical Physics RAS.*

- Investigating spin relaxation and dynamics in various organic polymer and molecular semiconductors.
- Calculating dynamics and other parameters of non-linear spin charge carriers, solitons and polarons, in organic polymer semiconductors.
- Identifying a mechanism of charge transfer in organic lo-dimensional semiconductors.

Young Scientist, 1982-1987; Scientist, 1987-1992. *The Institute of Chemical Physics in Chernogolovka.*

- Investigating an influence of microenvironment and structure of peroxide radicals on their magnetic parameters.
- Studying a change of dispersion line shape of nitroxide radicals depending on their microwave saturation.
- Calculating relaxation times of various paramagnetic centers registered under condition of permanent saturation and saturation transfer.
- Investigating biological and model systems with paramagnetic impurities at 2-mm waveband EPR.
- Applying 2-mm waveband EPR technique for a study high-T_c superconductors.
- Developing elements of molecular electronics based on organic polymer semiconductors.

Engineer, 1975-1979; Principal Engineer, 1979-1982. *The Institute of Chemical Physics in Chernogolovka.*

- Participating in design of a first high-field (5 T) EPR spectrometer within the Academy of Sciences Program.
- Optimizing a cavity and microwave scheme of 2-mm waveband (140 GHz) EPR spectrometer.
- Improving registration schemes for signal/noise ratio decrease at 140 GHz.
- Providing experimental and analytical support of 2-mm waveband EPR spectroscopy.

Career-Related Activities Invited lectures in Leipzig (1991), Berlin (1992), Jena (1997), Duisburg (2000), Stuttgart (2000) Universities, Max Planck Institute for Polymer Research, Mainz (2002), Germany.

Guest researcher in the Center of Atomic Energy, Grenoble, France (1994), Merseburg (1994), Jena (1997), Stuttgart (2001), and Ilmenau (2010, 2011) Universities, Germany, Institute for Physical High Technology, Jena, Germany (2004), Polymer Research Institute, Rudolstadt, Germany (1998, 2000, 2002, 2003, 2004, 2005).

Main Research Interests

- High-Field/Frequency EPR spectroscopy of condensed systems.
- Structure and dynamics of active centers in biological systems.
- Relaxation and dynamics of non-linear charge carriers, solitons and polarons, in organic conducting polymers.
- Mechanism of charge transport in organic conducting polymers, ion-radical salts and fullerene complexes.
- Molecular electronics.

Main Publications:

- V.I. Krinichnyi, *2-mm Wave Band EPR Spectroscopy of Condensed Systems*, CRC Press, Boca Raton, Florida, 1995.
- V.I. Krinichnyi, High-Field ESR Spectroscopy of Conductive Polymers, in *Advanced ESR Spectroscopy in Polymer Research*, S. Schlick, Ed., John Wiley, 2006, Ch. 12.
- V.I. Krinichnyi, LEPR spectroscopy of charge carriers photoinduced in polymer/fullerene composites, in *Encyclopedia of Polymer Composites: Properties, Performance and Applications*; Lechkov, M., Prandzheva, S., Eds.; Nova Science Publishers: Hauppauge, New York, 2009, Ch. 11.
- V.I. Krinichnyi, S.D. Chemerisov, and Y.S. Lebedev, EPR and charge transport studies of polyaniline, *Phys. Rev. B* **55** (1997) 16233.
- V.I. Krinichnyi, H.-K. Roth, G. Hinrichsen, F. Lux, and K. Lüders, EPR and charge transfer in H₂SO₄-doped polyaniline, *Phys. Rev. B* **65** (2002) 155205.
- V.I. Krinichnyi, 2-mm Wave band EPR spectroscopy of conducting polymers (Review), *Synth. Met.* **108** (2000) 173.
- A.L. Konkin, V.G. Shtyrin, R.R. Garipov, A.V. Aganov, A.V. Zakharov, V.I. Krinichnyi, P.N. Adams, and A.P. Monkman, EPR, charge transport, and spin dynamics in doped polyanilines, *Phys. Rev. B* **66** (2002) 075203.
- V.I. Krinichnyi, The nature and dynamics of nonlinear excitations in conducting polymers. Polyacetylene. Heteroaromatic polymers (Reviews), *Russ. Chem. Rev.* **65** (1996) 81, 521.
- V.I. Krinichnyi, E.I. Yudanov, Light-Induced EPR study of charge transfer in P3HT/PC₇₁BM bulk heterojunctions, *J. Phys. Chem. C*, **116** (2012) 9189.
- V.I. Krinichnyi, A.L. Konkin, A.P. Monkman, Electron paramagnetic resonance study of spin centers related to charge transport in metallic polyaniline, *Synth. Met.*, **162** (2012) 1147.
- V.I. Krinichnyi, E.I. Yudanov, Structural effect of electron acceptor on charge transfer in poly(3-hexylthiophene)/methanofullerene bulk heterojunctions, *Sol. Energy Mater. Sol. Cells*, **95** (2011) 2302.
- V.I. Krinichnyi, E.I. Yudanov, Light-induced EPR study of charge transfer in P3HT/bis-PCBM bulk heterojunctions, *AIP Advances*, **1** (2011) 022131.
- V.I. Krinichnyi, E.I. Yudanov, N.G. Spitsina, Light-induced electron

paramagnetic resonance study of poly(3-alkylthiophene)/fullerene composites, *J. Phys. Chem. C*, **114** (2010) 16756.

- V. I. Krinichnyi, Dynamics of charge carriers photoinduced in poly(3-dodecylthiophene)/fullerene composite, *Acta Materialia*, **56** (2008) 1427.
- V. I. Krinichnyi, H.-K. Roth, M. Schrödner, and B. Wessling, EPR study of polyaniline highly doped by *p*-toluenesulfonic acid, *Polymer*, **47** (2006) 7460.
- V.I. Krinichnyi, Investigation of biological systems by high resolution 2-mm wave band EPR (Review), *Appl. Magn. Reson.* **2** (1991) 29; *J. Biochem. Biophys. Meth.* **23** (1991) 1.
- N.N. Denisov, V.I. Krinichnyi, and V.A. Nadtochenko, Spin Properties of Paramagnetic Centers Photogenerated in Crystals of Complexes between C₆₀ and TPA, in *Fullerenes. Recent Advances in the Chemistry and Physics of Fullerenes and Related Materials* (Eds. K. Kadish and R. Ruoff), **97-14** (1997) 139.
- V.I. Krinichnyi, Relaxation and dynamics of charge carriers in organic polymer semiconductors. Polyacetylene (Review), *Russ. Sol. State Phys.* **39** (1997) 3.

Other publications please see at <http://hf-epr.awardspace.us/publications.htm>

Last Presentations:

- "LEPR study of effect polymer/methanofullerene composites modification on initiation of paramagnetic centers"
E.I. Yudanov, V.I. Krinichnyi, Russian Conference on Photonics of Organic and Hybrid Nanostructures, Chernogolovka, Russia, 2011
- "W-Band ESR study on photo-induced ion radical formation in solid films of C₁₂₀-O, C₁₂₀-O-PCBM, C₁₂₀-O-MDEH di-fullerene derivatives blended with M3EH-PPV and P3HT conductive polymers"
A. Konkin, U. Ritter, P. Scharff, G. Mamin, A. Aganov, N. Silkin, A. Fazylzyanov, V.I. Krinichnyi, D.A.M. Egbe, 75th Prague Meeting on Macromolecules, Conducting Polymers: Formation, Structure, Properties, and Applications, Prague, Czech Republic, 2011
- "Light-Induced EPR study of a direct light conversion by polymer/fullerene bulk heterojunctions"
V.I. Krinichnyi, E.I. Yudanov, I International Conference on Materials for Energy 2010, Karlsruhe, Germany, 2010
- "Photoinduced electron transfer and transient states in organic composites studied by ESR"
H.-K. Roth, A. Konkin, V.I. Krinichnyi, M. Schrödner, 4th International Symposium "Technologies for Polymer Electronics" (TPE 10), Rudolstadt, Germany, 2010
- "LEPR Study of charge transfer photoinduced in polymer/fullerene bulk heterojunctions"
V.I. Krinichnyi, E.I. Yudanov, N.N. Denisov, International Conference "Organic Nanophotonics (ICON-Russia 2009)", St. Petersburg, Russia, 2009
- "The study of endotaxial nanostructurization of poly(3-hexylthiophene)/fullerene composite by light-induced ESR spectroscopy"
E.I. Yudanov, V.I. Krinichnyi, International Conference "Organic Nanophotonics (ICON-Russia 2009)", St. Petersburg, Russia, 2009
- "EPR study of charge transfer photoinduced in polymer/fullerene system"
V.I. Krinichnyi, Symposium "Nanophotonics", Chernogolovka, Russia,

2007

- "High-Frequency EPR study of superslow molecular dynamics in conducting polymers"
V. I. Krinichnyi, VII Voevodsky Conference "Physics and Chemistry of Elementary Chemical Processes", Chernogolovka, Russia, 2007
- "Dynamics of photoinduced radical pairs in poly(3-dodecylthiophene)/fullerene solar cell"
V. I. Krinichnyi, VII Voevodsky Conference "Physics and Chemistry of Elementary Chemical Processes", Chernogolovka, Russia, 2007

Other presentations please see at <http://hf-epr.awardspace.us/conferences.htm>

Fellowships: International EPR (ESR) Society (since 1992)

Hobbies:

- Mountaineering
- Winter swimming
- HTML design