

DMITRI LITVINOV

PROFESSIONAL EXPERIENCE

ASSOCIATE PROFESSOR – ECE, University of Houston, Houston, TX, 2003-Present

- Nanomagnetic transducers (recording heads, probe heads, high resolution magnetic resonance probes, etc.)
- Patterned magnetic recording media (fabrication and recording physics)
- Ultra-high density magnetic random access memory

RESEARCH STAFF MEMBER – Seagate Research, Pittsburgh, PA, 1998-2003

- magnetic recording media: Co-alloy and superlattice based materials systems; soft underlayer materials and issues; advanced characterization techniques;
- read/write magnetic recording head physics and design issues; micro- and macromagnetic modeling;
- recording physics of perpendicular systems; system integration;
- One of the key contributors to the development of Seagate's Intellectual Property:
 - **3 ISSUED AND 27 PENDING UTILITY PATENTS**
 - **79 PROVISIONAL PATENTS**
- Originated and conducted a number of joint research ventures with several universities including University of York, Bangor, UK, Carnegie Mellon University, and University of Minnesota.

ADJUNCT PROFESSOR – Physics, University of Miami, Coral Gables, FL, 2001-Present

- Nanocontact studies of vortex dynamics in high temperature superconductivity
- Various aspects of fundamental and applied problems in magnetism
- Development of non-destructive techniques for thin film characterization

VISITING SCIENTIST – Electrical Engineering, Carnegie Mellon University, Pittsburgh, PA, 1999-2000

- Perpendicular magnetic recording media development
- Micromagnetics of soft underlayer films for perpendicular media
- Dynamics of soft magnetic films; ultra-fast Kerr imaging of magnetization reversal in soft underlayer films

EDUCATION

Doctor of Philosophy, *Applied Physics* - University of Michigan, Ann Arbor, 1999

Master of Science in Engineering, *Electrical Engineering* - University of Michigan, Ann Arbor, 1997

Master of Science, *Physics* - University of Miami, Coral Gables, Florida, 1994

Bachelor of Science, *Applied Physics* - Moscow Institute of Physics and Technology, Russia, 1992

Research Assistant (University of Michigan 1994-1997, University of Miami 1992-1994, Institute of Solid State Physics 1990-1992):

Magnetic sensor development: ultra-thin boron nitride tunneling layers in TMR devices; Cubic boron nitride (c-BN) thin films; Advanced materials characterization: *in-situ* texture evaluation and control, *in-situ* real-time stress measurements; Thermoelectric materials; Transport properties of high temperature superconductors; 2-dimensional electron gas under Quantum Hall Effect conditions; Design and development of low temperature (~0.4K) high magnetic field (up to 12T) equipment for transport measurements.

HONORS and AWARDS

Seagate's Key Employee Award, 26 Technical Achievement Awards, Represented Seagate Technology at the Lake Arrowhead Conference, a meeting of top 25 data storage industry leaders; Horace H. Rackham Fellowship (1998/99); Horace H. Rackham Travel Grant Awards (1997/98); University of Michigan, Physics Department Fellowship (1994/95), Applied Physics Fellowship (1998/99); Moscow Institute of Physics and Technology, Outstanding Student Fellowship (1991/92); Classified by the United States government as a "Person of Extraordinary Ability;" granted an unrestricted immigration status (2001); Listed in Who's Who in America.

PROFESSIONAL SOCIETIES and RELATED ACTIVITIES

Member of IEEE and Materials Research Society

NAPMRC Program Co-Chair – North American Perpendicular Magnetic Recording Conference, 2001-Present

Peer Reviewer for *IEEE Transactions on Magnetics*, *Journal of Applied Physics*, *Applied Physics Letters*, *Thin Solid Films*, *Materials Science and Engineering*, *Diamond and Related Materials*, and *Surface and Coatings Technology*, *Journal of Vacuum Science and Technology*

PATENTS, PUBLICATIONS and PRESENTATIONS

ISSUED PATENTS

1. **D. Litvinov** and S. Khizroev, "Perpendicular recording head defining the trackwidth by material deposition thickness," US patent 6,560,069, issued May 6 2003.
2. **D. Litvinov**, S. Khizroev, M. H. Kryder, "Perpendicular magnetic recording media with reduced-noise soft magnetic underlayer," US patent 6,531,202, issued Mar 11, 2003.
3. S. Khizroev, B. W. Crue, **D. Litvinov**, "Method for forming a perpendicular recording read/write head," US patent 6,513,228, issued Feb 4, 2003.

PENDING PATENT APPLICATIONS

4. **D. Litvinov**, and S. Khizroev, "Magnetic recording media including magnetically soft composite layer and method of making same," US patent, 60/175,858, filed Jan 12, 2001.
5. **D. Litvinov**, R. W. Gustafson, K. J. Howard, S. Khizroev, "Perpendicular magnetic recording media with laminated soft magnetic underlayer," 60/180,415, filed Feb 2, 2001.
6. W. Crue, E. C. Johns, S. Khizroev, **D. Litvinov**, U. Tran, "Write pole for a magnetic recording head having layered low magnetic moment and high magnetic moment material," US patent, 60/180,292, filed Feb 2, 2001.
7. W. Crue, T. M. Crawford, S. Khizroev, **D. Litvinov**, "Perpendicular magnetic recording head having a flux focusing main pole," US patent, 60/189,359, filed Mar 15, 2001.
8. **D. Litvinov**, W. Crue, M.-L. Wu, S. Khizroev, "Magnetic recording heads including boron nitride insulating material," US patent, 60/191,525, filed Mar 23, 2001.
9. **D. Litvinov**, W. Crue, S. Khizroev, "Perpendicular recording head with return poles which reduce flux antenna effect," US patent, 60/192,053, filed Mar 23, 2001.
10. **D. Litvinov**, and S. Khizroev, "Multilayer perpendicular magnetic recording media with exchange decoupled spacer layers," US patent, 60/192,050, filed Mar 23, 2001.
11. **D. Litvinov**, R. W. Gustafson, and S. Khizroev, "Read element for magnetic storage media having magnetic coupling between itself and its shields," US patent, 60/208,252, filed May 23, 2001.
12. **D. Litvinov**, R. W. Gustafson, and S. Khizroev, "Magnetic recording system which eliminates skew angle effect," US patent, 60/221,494, filed Jul 26, 2001.
13. A. M. Shukh, S. Khizroev, **D. Litvinov**, E. W. Singleton, "Perpendicular recording medium with antiferromagnetic exchange coupling in soft magnetic underlayers," US patent, 60/227,943, filed Aug 24, 2001.
14. **D. Litvinov**, K. J. Howard, S. Khizroev, "Multilayer magnetic recording media with columnar microstructure for improved exchange decoupling," US patent, 60/235,943, filed Sep 27, 2001.
15. S. Khizroev, R. W. Gustafson, **D. Litvinov**, N. Shukla, "A perpendicular magnetic recording head with a magnetic shield to reduce side reading," US patent, 60/257,125, filed Dec 20, 2001.
16. **D. Litvinov**, B. Crue, S. Khizroev, "Composite write pole for a magnetic recording head," US patent, 60/276,154, filed Nov 29, 2001.
17. **D. Litvinov**, and S. Khizroev, "Perpendicular magnetic recording head for improved resolution," US patent, 60/306,802, filed Dec 17, 2001.
18. **D. Litvinov**, N. Shukla, E. B. Svedberg, S. Khizroev, D. K. Weller, "Selective annealing of magnetic recording films," US patent, 60/334,240, filed Nov 27, 2002.
19. W. Crue, E. B. Svedberg, R. E. Rottmayer, **D. Litvinov**, and S. Khizroev, "Next generation of the skew insensitive laminated perpendicular magnetic probe," US patent, filed June 2003.
20. S. Khizroev, M. H. Kryder, **D. Litvinov**, "Perpendicular recording head including concave tip," US patent, 60/154,973, filed Sept 19, 2000.
21. **D. Litvinov**, and S. Khizroev, "Magnetic recording head including background magnetic field generator," International and US patents, 60/154,880, filed Sept 19, 2000.
22. S. Khizroev, J. A. Bain, M. H. Kryder, **D. Litvinov**, "Longitudinal magnetic recording heads with variable-length gaps," International and US patents, 60/157,883, filed Oct 4, 2000
23. S. Khizroev, N. Amin, B. Crue, **D. Litvinov**, "Perpendicular recording head with trackwidth defined by plating thickness," US patent, 60/161,690, filed Oct 24, 2000.
24. S. Batra, S. Khizroev, **D. Litvinov**, "Longitudinal recording head with reduced side fringing," US patent, 60/180,295, filed Feb 5, 2001.
25. S. Khizroev, E. C. Johns, **D. Litvinov**, "Gapless longitudinal magnetic recording head with flux cavity," US patent, 60/174,524 filed on Jan. 5, 2000, 60/175,793 filed Jan 5, 2001.
26. S. Khizroev, W. Crue, **D. Litvinov**, "Perpendicular magnetic recording head with write pole which reduces flux antenna effect," US patent, 60/175,320, filed Jan 10, 2001.

27. **D. Litvinov**, and S. Khizroev, "Perpendicular recording head with longitudinal magnetic field generator to facilitate magnetic switching," US patent, 60/175,266, filed Jan 10, 2001.
28. S. Khizroev, and **D. Litvinov**, "Perpendicular magnetic recording head with means for suppressing noise from soft magnetic underlayer of recording media," US patent, 60/175,265, 60/175,271, 60/180,293, 60/189,365, 60/191,974, 60/191,775, filed Jan 10, 2001.
29. S. Khizroev, and **D. Litvinov**, "Perpendicular magnetic recording system including recording media with a soft magnetic underlayer having a saturation moment higher than the moment of the recording head," US patent, 60/175,863, filed Jan 12, 2001.

PUBLICATIONS

1. **D. Litvinov** and S. Khizroev, "Orientation-Sensitive Magnetic Force Microscopy for Future Probe Storage Applications," *Applied Physics Letters* **81**(10), 1878-1880 (2002) [*Editor's choice in the AIP Virtual Journal of Nanoscience & Technology, Vol. 6(11), Sept. 2002*].
2. S. Khizroev, D.A. Thompson, M.H. Kryder, **D. Litvinov**, "Direct Observation of Magnetization Switching in Focused Ion-beam Fabricated Nanotubes," *Applied Physics Letters* **81**(12), 2256-2257 (2002) [*Editor's choice in the AIP Virtual Journal of Nanoscience & Technology, Vol. 6(12), Sept. 2002*].
3. **D. Litvinov** and S. Khizroev, "Focused Ion Beams in Future Nanoscale Probe Recording," *Nanotechnology* **13**, 179-184 (2002).
4. S. Khizroev, J. Bain, and **D. Litvinov**, "Focused Ion Beam Fabrication of Nanomagnetic Probes," *Nanotechnology* **13**, 619-622 (2002).
5. A. Lyberatos, S. Khizroev, and **D. Litvinov**, "Thermal Effects in High-Speed Switching of the Magnetization of Fine Grains," *Japanese Journal of Applied Physics* **41**, 1598-1602 (2003).
6. **D. Litvinov** and S. Khizroev, "Overview of Magnetoresistive Probe Heads for Nanoscale Recording Applications," *Journal of Magnetism and Magnetic Materials* (in press) 2002.
7. E. Svedberg, S. Khizroev, **D. Litvinov**, "Magnetic Force Microscopy Study of Perpendicular Media," *Journal of Applied Physics* **91**(8), 5365-5370 (2002).
8. J.T. Wolfson, J.A. Bain, S. Khizroev, and **D. Litvinov**, "Dynamic Kerr Imaging of Soft Underlayer for Perpendicular Recording Applications," (*invited*) *Journal of Applied Physics* **91**(10), 8665-8669 (2002).
9. **D. Litvinov**, A. Lyberatos, J. Wolfson, J.A. Bain, and S. Khizroev, "Recording Layer Influence on the Dynamics of a Soft Underlayer," *IEEE Transactions on Magnetics*, **38**(5), 1994-1996 (2002).
10. S. Khizroev, A. Lyberatos, M.H. Kryder, and **D. Litvinov**, "Physics of Perpendicular Recording: Effects of Magnetic 'Charge' Distribution," *Japanese Journal of Applied Physics, Part 2 Letters*, **41** (7A), L758-L760 (2002).
11. **D. Litvinov**, J. Wolfson, J. Bain, R.W. Gustafson, M.H. Kryder, and S. Khizroev, "Narrow Gap Single Pole Heads," *IEEE Transactions on Magnetics*, **38**(5), 2253-2255 (2002).
12. S. Khizroev, R.W. Gustafson, M.H. Kryder, and **D. Litvinov**, "Multiple Magnetic 'Image' Reflection in Perpendicular Recording," *IEEE Transactions on Magnetics*, **38**(5), 2066-2068 (2002).
13. S. Khizroev and **D. Litvinov**, "Parallels between Playback in Perpendicular and Longitudinal Recording," *Journal of Magnetism and Magnetic Materials*, **257**(1), 126-131 (2003).
14. E. Svedberg, S. Khizroev, Ch. Chang, **D. Litvinov**, "Signal-to-Noise Degradation in Perpendicular Media under Thermal Aging and Aging in Magnetic Field," *Journal of Applied Physics*, **92**(11), 6714-6720 (2002).
15. E. Svedberg, Ch. Chang, **D. Litvinov**, S. Khizroev, "Magnetic Force Microscopy of Skew Angle Dependencies in Perpendicular Magnetic Recording," *Journal of Applied Physics*, **93**(3), 2828-2833 (2002).

16. **D. Litvinov** and S. Khizroev, "Perpendicular Recording: A Future Technology or a Temporary Solution," *Proceedings of the 10th NASA Goddard Space Flight Center Conference on Mass Data Storage Systems and Technologies*, 1-19 (2002).
17. S. Khizroev, M.H. Kryder, and **D. Litvinov**, "Physics of Perpendicular Recording: Playback," *Journal of Applied Physics*, **93**(11), 9155-9164 (2003).
18. J. Wu, L. Holloway, H. Laidler, K.O'Grady, S. Khizroev, J.K. Howard, R.W. Gustafson, and **D. Litvinov**, "Magnetic Characterisation of Perpendicular Recording Media," *IEEE Transactions on Magnetics* **38**(4), 1682-1686 (2002).
19. S. Khizroev, Y.-K. Liu, K. Mountfield, M.H. Kryder, and **D. Litvinov**, "Physics of Perpendicular Magnetic Recording: Writing Process," *Journal of Magnetism and Magnetic Materials* **246** (1-2), 352-361 (2002).
20. **D. Litvinov**, M.H. Kryder, and S. Khizroev, "Recording Physics of Perpendicular Media: Hard Layers," *Journal of Magnetism and Magnetic Materials* **241**(2-3), 453-465 (2002).
21. **D. Litvinov**, J. Wolfson, J.A. Bain, R.W. Gustafson, M.H. Kryder, S. Khizroev, "The Role of the Gap in Single Pole Heads in Perpendicular Recording," *IEEE Transactions on Magnetics* **38**(4), 1658-1663 (2002).
22. S. Khizroev and **D. Litvinov**, "Response to Comment on "On the Mechanism of the Cubic Phase Formation in the Boron Nitride Thin-Film Systems," *Applied Physics Letters* **80**(7), 1308-1309 (2002).
23. A. Lyberatos, S. Khizroev, and **D. Litvinov**, "High speed coherent switching of magnetic recording media," *IEEE Transactions on Magnetics* **37**(4), 1369-1372 (2001).
24. **D. Litvinov**, M.H. Kryder, and S. Khizroev, "Recording Physics of Perpendicular Media: Soft Underlayers," *Journal of Magnetism and Magnetic Materials* **232**(1-2), 84-90 (2001).
25. B. Lu, T. Klemmer, S. Khizroev, K. Howard, **D. Litvinov**, A.G. Roy, and D.E. Laughlin, "CoCrPtTa/Ti perpendicular media deposited at high sputtering rate," *IEEE Transactions on Magnetics* **37**(4), 1319-1322 (2001).
26. **D. Litvinov**, R. Chomko, J. Wolfson, E. Svedberg, J. Bain, R. White, R. Chantrell, P. Ridley, S. Khizroev, "Dynamics of Perpendicular Recording," *IEEE Transactions on Magnetics* **37**(4), 1376-1378 (2001).
27. S. Khizroev and **D. Litvinov**, "Soft Underlayers," Proceedings of the 20th Lake Arrowhead Conference on Data Storage (2001).
28. **D. Litvinov**, T. Roscamp, T. Klemmer, M. Wu, J.K. Howard, S. Khizroev, "Co/Pd Multilayers for Perpendicular Recording Media," *MRS Proceedings* **674**, T3.9 (2001).
29. S. Khizroev and **D. Litvinov**, "On the Mechanism of Cubic Phase Formation in Boron Nitride Thin-Film Systems," *Applied Physics Letters*, **79**(3), 353, 2001.
30. T. Klemmer, K. Howard, S. Khizroev, **D. Litvinov**, A. Roy, and D. Laughlin, "Seed Layer Effect on the Microstructure and Magnetic Properties of Co/Pd Multilayers," *Journal of Applied Physics* **89**, 7531 (2001).
31. S. Khizroev, M.H. Kryder, and **D. Litvinov**, "Next Generation Perpendicular Recording Systems," *IEEE Transactions on Magnetics* **37**(4), 1922-1925 (2001).
32. **D. Litvinov**, R. Chomko, G. Chen, L. Abelmann, K. Ramstock, and S. Khizroev, "Micromagnetics of a Soft Underlayer," *IEEE Transactions on Magnetics* **36**(5), 2483 (2000).
33. **D. Litvinov**, H. Gong, D. Lambeth, S. Khizroev, and K. Howard, "RHEED Based Texture Determination: Magnetic Thin Films," *Journal of Applied Physics*, **87**(9), 5693 (2000).
34. L. Abelmann, S. Khizroev, **D. Litvinov**, J. Zhu, J. Bain, M.H. Kryder, K. Ramstock, C. Lodder, "Micromagnetic simulation of an ultra-small single pole perpendicular write head," *Journal of Applied Physics*, **87**(9), 6636 (2000).
35. H. Gong, **D. Litvinov**, T. Klemmer, D. N. Lambeth, J. K. Howard, "Seed Layer Effects on the Magnetoresistive Properties of NiFe Films," *IEEE Transactions on Magnetics* **36**(5), 2963 (2000).

36. L. Pust, L.E. Wenger, R.A. Lukaszew, Y. Sheng, **D. Litvinov**, Y. Wang, C. Uher, and R. Clarke, "Temperature Dependence of the Magnetization Reversal in Co(fcc)-BN-Co(poly hcp) Structures," *Journal of Applied Physics*, **85**(8), 5765 (1999).
37. **D. Litvinov** and R. Clarke, "In-situ Texture Monitoring for Growth of Oriented Cubic Boron Nitride Films," *Applied Physics Letters*, **74**(7), 955 (1999).
38. **D. Litvinov**, T. O'Donnell, and R. Clarke, "Thin film texture determination from RHEED," *Journal of Applied Physics*, **85**(4), 2151 (1999).
39. **D. Litvinov**, C.A. Taylor II, D. Barlett, and R. Clarke, "Real-Time Strain Monitoring in Thin Film Growth: Cubic Boron Nitride on Si (100)," *Materials Science and Engineering: B*, **BS6** (1999).
40. **D. Litvinov** and R. Clarke, "Reduced Bias Growth of Cubic Boron Nitride," *Applied Physics Letters*, **71**(14), 1969 (1997).
41. **D. Litvinov**, C.A. Taylor II, and R. Clarke, "Semiconducting Cubic Boron Nitride," *Journal of Diamond and Related Materials*, **7**,360 (1997).

INVITED CONFERENCE PRESENTATIONS

1. **D. Litvinov**, "Next Generation Magnetic Nanotransducers," Nano-Vivo Summit, Houston, Texas, July 2003.
2. **D. Litvinov** and S. Khizroev, "Nanotechnology Applications in Magnetic Data Storage," to be presented at 10th International Conference on Composite Engineering New Orleans, Louisiana, July 2003.
3. S. Khizroev and **D. Litvinov**, "The Role of Focused Ion Beam in Nanoscale Magnetic Recording," 2003 NNUN Japan-US Symposium, Tools and Metrology for Nanotechnology, Ithaca, New York, January 2003.
4. **D. Litvinov** and S. Khizroev, "Fundamental Challenges Facing Perpendicular Recording at Nanoscale Dimensions," presented at the 47th Conference on Magnetism and Magnetic Materials, Tampa, Florida, October 2002.
5. **D. Litvinov** and S. Khizroev, "Next Generations Recording Technologies," to be presented at THIC in Upper Marlboro, Maryland in November 2003.
6. **D. Litvinov** and S. Khizroev, "Fundamental Challenges Facing Perpendicular Magnetic Recording at Nanoscale Dimensions," to be presented at the Conference on Magnetism and Magnetic Materials in Tampa, Florida in October 2002.
7. **D. Litvinov** and S. Khizroev, "Magnetic Recording: Prospects and Retrospect," presented at the invited panel discussion "10 Year Retrospective and 10 Year Prospective" at the 10th NASA Goddard Space Flight Center Conference on Mass Data Storage Systems and Technologies in College Park, Maryland in April 2002.
8. **D. Litvinov** and S. Khizroev, "Perpendicular Recording: A Future Technology or a Temporary Solution," tutorial presented at the 10th NASA Goddard Space Flight Center Conference on Mass Data Storage Systems and Technologies in College Park, Maryland in April 2002.
9. **D. Litvinov**, J. Wolfson, J. Bain, M.H. Kryder, R.W. Gustafson, and S. Khizroev, "The Role of the Gap in Single Pole Heads in Perpendicular Recording," presented at 1st North American Perpendicular Magnetic Recording Conference in Miami, Florida in January 2002.
10. J. Wu, L. Holloway, H. Laidler, K.O'Grady, S. Khizroev, J.K. Howard, R.W. Gustafson, and **D. Litvinov**, "Magnetic Characterisation of Perpendicular Recording Media, presented at 1st North American Perpendicular Magnetic Recording Conference in Miami, Florida in January 2002.
11. J.T. Wolfson, J.A. Bain, S. Khizroev, and **D. Litvinov**, "Dynamic Kerr Imaging of Soft Underlayer for perpendicular Recording Applications," presented at MMM in Seattle, WA 2001.
12. **D. Litvinov** and S. Khizroev, "Soft Underlayers", presented at the Lake Arrowhead Conference, December 2000.

13. R. Clarke and **D. Litvinov**, "Energetics of Cubic Boron Nitride Deposition," 45th International Symposium of American Vacuum Society: "Vacuum, Thin Films, Surfaces/Interfaces & Processing," Baltimore, Maryland, November 1998.

CONTRIBUTED CONFERENCE PRESENTATIONS

1. **D. Litvinov** and S. Khizroev, "Magneto-Resistive Probe Heads Design Considerations for Nanoscale Magnetic Recording Applications," 47th Conference on Magnetism and Magnetic Materials in Tampa, Florida in October 2002.
2. S. Khizroev, R. Chantrell, T. Roscamp, R. Gustafson, and **D. Litvinov**, "Fundamentals of Soft Underlayer During Playback," 47th Conference on Magnetism and Magnetic Materials in Tampa, Florida in October 2002.
3. E. Svedberg, **D. Litvinov**, R. Gustafson, and S. Khizroev, "Skew angle dependent bit shape for various bit densities in a perpendicular media for data storage," 47th Conference on Magnetism and Magnetic Materials in Tampa, Florida in October 2002.
4. S. Khizroev, J. Bain, and **D. Litvinov**, "Focused Ion Beam Fabrication of Nanomagnetic Probes," 47th Conference on Magnetism and Magnetic Materials in Tampa, Florida in October 2002.
5. S. Khizroev, D. Thompson, M.H. Kryder, and **D. Litvinov**, "Direct Observation of Magnetization Switching in Focused Ion Beam Fabricated Magnetic Nanotubes," 47th Conference on Magnetism and Magnetic Materials in Tampa, Florida in October 2002.
6. P. Ridley, G. Roberts, R. Chantrell, S. Khizroev, **D. Litvinov**, "Effects of a soft underlayer on perpendicular magnetic recording," 47th Conference on Magnetism and Magnetic Materials in Tampa, Florida in October 2002.
7. S. Khizroev and **D. Litvinov**, "Orientation-Sensitive Magnetic Force Microscopy for Future Probe Storage Applications," 47th Conference on Magnetism and Magnetic Materials in Tampa, Florida in October 2002.
8. **D. Litvinov**, J. Wolfson, J. Bain, and S. Khizroev, "Recording Layer Influence on the Dynamics of a Soft Underlayer," INTERMAG in Amsterdam, Netherlands in April 2002.
9. **D. Litvinov** and S. Khizroev, "Multiple Magnetic Image Reflection in Perpendicular Recording," INTERMAG in Amsterdam, Netherlands in April 2002.
10. **D. Litvinov**, M.H. Kryder, A. Lyberatos, and S. Khizroev, "Physics of Perpendicular Recording: Effects of Magnetic Charge Distribution," INTERMAG in Amsterdam, Netherlands in April 2002.
11. A. Lyberatos, **D. Litvinov**, and S. Khizroev, "Ultra-fast switching of perpendicular media," INTERMAG in Amsterdam, Netherlands in April 2002.
12. E. Svedberg, **D. Litvinov**, and S. Khizroev, "Magnetic Force Microscopy Study of the Thermal Stability of Perpendicular Magnetic Recording Media," INTERMAG in Amsterdam, Netherlands in April 2002.
13. S. Khizroev and **D. Litvinov**, "Parallels between Playback in Perpendicular and Longitudinal Recording," INTERMAG in Amsterdam, Netherlands in April 2002.
14. **D. Litvinov**, J. Wolfson, J. Bain, M.H. Kryder, R.W. Gustafson, and S. Khizroev, "Narrow Gap in Single Pole Heads in Perpendicular Recording," INTERMAG in Amsterdam, Netherlands in April 2002.
15. A. Lavrenov, **D. Litvinov**, and S. Khizroev, "Study of the Pinning Nature in High-Temperature Superconductors via Direct Sensing of Individual Magnetic Vortices," MMM 2001 in Seattle, Washington in November 2001.
16. S. Khizroev, A. Lyberatos, and **D. Litvinov**, "Effects of Charge Distribution in a Perpendicular Medium," MMM in Seattle, Washington in November 2001.
17. **D. Litvinov** and S. Khizroev, "Recording Physics of Perpendicular Media," Joint INTERMAG/MMM conference in San Antonio, Texas in January 2001.

18. T. Klemmer, K. Howard, S. Khizroev, **D. Litvinov**, A. Roy, and D. Laughlin, "Seed Layer Effect on the Microstructure and Magnetic Properties of Co/Pd Multilayers," Joint Intermag/MMM conference in San Antonio, Texas in January 2001.
19. E. Svedberg, S. Khizroev, **D. Litvinov**, "Magnetic Force Microscopy Study of Perpendicular Media," Joint Intermag/MMM conference in San Antonio, Texas in January 2001.
20. J. Wolfson, J.A. Bain, R. White, R. Chantrell, E. Svedberg, **D. Litvinov**, S. Khizroev, "Dynamics of Perpendicular Recording," Joint Intermag/MMM conference in San Antonio, Texas in January 2001.
21. A. Lyberatos, S. Khizroev, and **D. Litvinov**, "High speed coherent switching of magnetic recording media," Joint Intermag/MMM conference in San Antonio, Texas in January 2001.
22. B. Lu, T. Klemmer, S. Khizroev, K. Howard, and **D. Litvinov**, "CoCrPtTa/Ti perpendicular media deposited at high sputtering rate," Joint Intermag/MMM conference in San Antonio, Texas in January 2001.
23. R. Clarke, A. Inspektor, **D. Litvinov**, D. Barlett, and C.A. Taylor, "Thick Ultra-Hard Coatings Based on Cubic Boron Nitride," International Conference on Metallurgical Coatings and Thin Films, San Diego, California, April-May 2001.
24. S. Khizroev and **D. Litvinov**, "Perpendicular Recording at 100Gbit/in² density," presented at Perpendicular Magnetic Recording Conference in Japan in October 2000.
25. S. Khizroev, Y.-K. Liu, K. Mountfield, and **D. Litvinov**, "Dynamics studies of a perpendicular recording system," INTERMAG, Toronto, Canada, April 2000.
26. H. Gong, **D. Litvinov**, T.J. Klemmer, D.N. Lambeth, and J.K. Howard, "Seed layer effects on the magnetoresistive properties of NiFe films," INTERMAG, Toronto, Canada, April 2000.
27. **D. Litvinov**, L. Abelmann, K. Ramstock, and S. Khizroev, "Micromagnetics of a soft underlayer," INTERMAG, Toronto, Canada, April 2000
28. **D. Litvinov**, J.K. Howard, S. K. Khizroev, H. Gong, and D. Lambeth, "RHEED Based Texture Characterization and Control: Magnetic Thin Films for Perpendicular Media," International Conference on Magnetism and Magnetic Materials, San Diego, CA, October 1999.
29. A.Lukaszew, Y. Sheng, **D. Litvinov**, C. Uher, and R. Clarke, L. Pust, "Patterned Spin-Tunneling Structures," American Physical Society Meeting, Atlanta, Georgia, March 1999.
30. L. Abelmann, S.K. Khizroev, **D. Litvinov**, J. Zhu, M. H. Kryder, K. Ramstock, C. Lodder, "Micromagnetic Simulations of Ultra-Small Single Pole Perpendicular Heads," International Conference on Magnetism and Magnetic Materials Conference, San Diego, CA, October 1999.
31. R. A. Lukaszew , Y. Sheng, **D. Litvinov**, Y. Wang, L. Pust, C. Uher and R. Clarke, "Patterned Co-BN-Co Spin Tunneling Structures," Material Research Society Spring Meeting, San Francisco, CA 1999.
32. **D. Litvinov**, T. O'Donnell, and R. Clarke, "Thin Film Texture determination from RHEED," Material Research Society Fall Meeting, Boston, MA, December 1998.
33. **D. Litvinov**, R. Clarke, C.A. Taylor, and D. Barlett, "Real-time Strain Monitoring in Thin Film Growth: Cubic Boron Nitride," Material Research Society Fall Meeting, Boston, MA, December 1998.
34. **D. Litvinov**, R. Clarke, C.A. Taylor II, and D. Barlett, "Real-time Strain Monitoring in Thin Film Growth: Cubic Boron Nitride on Si (100)," Fourth International Workshop on Expert Evaluation and Control of Compound Semiconductor Materials and Technologies, Cardiff, Wales, United Kingdom, June 1998.
35. **D. Litvinov** and R. Clarke, "Epitaxial Growth of Boron Nitride," Meeting of the American Physical Society, Los Angeles, CA, March 1998.
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