

December 2022

Curriculum Vitae

Eli Zeldov

Date of birth: July 28, 1957, Riga, Latvia

Marital status: Married, four children

Military service: Technical commander, Signal Corps, Captain, 1978 - 1983

Academic degrees: B.Sc. - Department of Electrical Engineering, Technion, Israel, June 1978.
Ph.D. - Department of Electrical Engineering, Technion, Israel, Dec. 1986.

Academic appointments: Technion, Department of Electrical Engineering – Lecturer, March 1987; Solid State Institute, Member, Nov. 1986.

IBM T.J. Watson Research Center – Postdoctoral fellow, 1988 - 1991.

Lucent Technologies Bell Labs – Visiting Scientist, Sep. 1998 - Aug. 1999.

Stanford University, Department of Applied Physics – Visiting Professor, Sep. 2006 - Aug. 2007.

Weizmann Institute of Science, Department of Condensed Matter Physics – Senior Scientist, April 1992; Associate Professor, Oct. 1996; Professor, Oct. 2001;

Head, Department of Condensed Matter Physics, Jan. 2013 – Jan. 2020.

Head, Braun Center for Submicron Research, Sep. 2015 - present

Honors: B.Sc. - Cum Laude, 1978
Gutwirth Distinction Prize, 1982
Fulbright Scholarship Award, 1986
IBM Invention Award, 1991
Alon Scholarship Award, 1992
Charles H. Revson Award, 1993
Recanati Career Development Chair, 1994
Morris L. Levinson Prize in Physics, 1995
Olswang Prize in Physics of the Israel Science Foundation, 1997
Commission Member of the Int. Union of Pure and Applied Physics, 1999
David and Inez Myers Chair of Condensed Matter Physics, 2000
Commission Member of the Int. Union of Pure and Applied Physics, 2002
Kamerlingh Onnes Prize, 2003
Fellow, American Physical Society, 2007
Recipient the EU ERC Advanced Grant, 2008-2013
Fellow, School of Engineering, The University of Tokyo, 2009
Landau Prize of Mifal Hapais for Exact Sciences, 2012
The Rosa and Emilio Segre Award, 2015
Recipient the EU ERC POC Grant, 2015-2016
Recipient the EU ERC Advanced Grant, 2018-2023
Abrikosov Prize, 2019
Weizmann Prize for Exact Sciences by the city of Tel Aviv, 2019
Andre Deloro Prize for Scientific Research, Adelis Foundation, 2019

Active Participation in International Conferences:

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| 1. | The Fifth International Thin Film Congress, Herzelia, Israel, Sept. 1981. | oral presentation |
| 2. | The 16th International Conference on the Physics of Semiconductors, Montpellier, France, Sept. 1982. | poster |
| 3. | The 11th International Conference on Amorphous and Liquid Semiconductors, Rome, Italy, Sept. 1985. | oral presentation |
| 4. | 1987 Meeting of the Israeli Physical Society, Israel. | <i>invited talk</i> |
| 5. | 1989 March Meeting of the American Physical Society, St. Louis, MO. | oral presentation |
| 6. | International Conference on Materials and Mechanisms of Superconductivity - High-Temperature Superconductors II, Stanford, CA, July 1989. | poster |
| 7. | The Third International Bar-Ilan Conference on Frontiers in Condensed Matter Physics, Israel, Jan. 1990. | <i>invited talk</i> |
| 8. | 1990 March Meeting of the American Physical Society, Anaheim, CA. | <i>invited talk</i> |
| 9. | 1991 March Meeting of the American Physical Society, Cincinnati, OH. | oral presentation |
| 10. | The 2nd Israeli International Conference on High- T_c Superconductivity, Eilat, Jan. 1993. | participant |
| 11. | The Fourth International Bar-Ilan Conference on Frontiers in Condensed Matter Physics, Israel, March 1993. | <i>session chairman</i> |
| 12. | 1994 Meeting of the Israel Physical Society, Haifa, May 1994. | <i>invited talk</i> |
| 13. | International Workshop on Fundamental Aspects of Flux Dynamics in High- T_c Superconductors, Palaiseau, France, June 1994. | <i>invited talk</i> |
| 14. | International Conference on Materials and Mechanisms of Superconductivity - High Temperature Superconductors IV, Grenoble, France, July 1994. | posters |
| 15. | 1995 March Meeting of the American Physical Society, San Jose, CA. | <i>invited symposium talk</i> |
| 16. | Weizmann - Tokyo Symposium on Mesoscopic Physics, Tokyo, Japan, April 1995. | <i>invited talk</i> |
| 17. | International Workshop on Coherence in High Temperature Superconductors, Herzelia, Israel, May 1995. | <i>invited talk</i> |
| 18. | Euroconference on Phenomenological Properties in Novel Superconductors, Torino, Italy, May 1995. | <i>invited talk</i> |
| 19. | International Workshop on Vortex Dynamics in High- T_c Superconductors, Argonne, IL, June 1995. | <i>invited talk</i> |

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| 20. | Gordon Research Conference on Superconductivity, Les Diablerets, Switzerland, September 1995. | <i>invited talk</i> |
| 21. | Eighth International Symposium on Superconductivity, Hamamatsu, Japan, October 1995. | <i>invited talk</i> |
| 22. | 1995 Meeting of the British Institute of Physics - CMMP 95, Liverpool, UK, December 1995. | <i>invited symposium talk</i> |
| 23. | 10th Anniversary HTS Workshop on Physics, Materials and Applications, Houston, TX, March 1996. | <i>invited talk</i> |
| 24. | 1996 Meeting of the Israel Physical Society, Jerusalem, April 1996. | <i>invited talk</i> |
| 25. | International Workshop on New Physics in the Vortex State of the High Temperature Superconductors, Hatoyama, Japan, April 1996. | <i>invited talk</i> |
| 26. | International Workshop on Vortex Dynamics in High Temperature Superconductors, Shores, Israel, June 1996. | <i>organizer</i> |
| 27. | XXI International Conference on Low Temperature Physics, Prague, Czech Republic, August 1996. | <i>invited talk</i> |
| 28. | Gordon Research Conference on Superconductivity, Ventura, CA, January 1997. | <i>invited talk</i> |
| 29. | International Conference on Materials and Mechanisms of Superconductivity - High-Temperature Superconductors V, Beijing, China, February 1997. | <i>invited talk</i> |
| 30. | Workshop on Vortex Matter, Monte Verita, Switzerland, June 1997. | <i>program committee</i> |
| 31. | Conference on Defects in Soft Condensed Matter, Aspen, CO, January 1998. | <i>invited talk</i> |
| 32. | International Workshop on Vortex Physics in High-Temperature Superconductors, Hachimantai, Japan, June 1998. | <i>international committee</i> |
| 33. | Conference on High Temperature Superconductivity, University of Miami, Miami, FL, January 1999. | <i>international committee</i> |
| 34. | 1999 Centennial Meeting of the American Physical Society, Atlanta, GA, March 1999. | <i>session chairman</i> |
| 35. | International Workshop on Vortex Physics in High-Temperature Superconductors, Stanford, CA, June 1999. | <i>international committee</i> |
| 36. | 6 th International Conference Materials and Mechanisms of Superconductivity and High-Temperature Superconductors, Houston, Texas, February 2000. | <i>invited talk</i> |
| 37. | 18 th General Conference of the European Physical Society, Condensed Matter Division, Montreux, Switzerland, March 2000. | <i>plenary talk</i> |
| 38. | Theory of Vortex Dynamics and Related Subjects, Lorentz Center, University of Leiden, Netherlands, August 2000. | <i>invited talk</i> |
| 39. | The Joint Vortex-Physics and ESF-Vortex Matter Workshop, Lunteren, Netherlands, September 2000. | <i>international committee</i> |

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| 40. Israel Science Foundation Workshop on Vortex Dynamics, Ramat-Gan, Israel, May 2001. | <i>organizer</i> |
| 41. European Conference on Vortex Matter in Superconductors, Crete, Greece, September 2001. | <i>keynote talk</i> |
| 42. International Symposium on Advances in Superconductivity and Magnetism: Materials Mechanism and Devices, Mangalore, India September 2001. | <i>plenary talk,
international
committee</i> |
| 43. International Workshop on Vortex Physics, Bariloche, Argentina, November 2001. | <i>invited talk,
international
committee</i> |
| 44. 2002 March Meeting of the American Physical Society, Indianapolis, IN. | <i>invited symposium
talk</i> |
| 45. The 23rd International Conference on Low Temperature Physics LT23, Hiroshima, Japan, August 2002. | <i>international
advisory committee</i> |
| 46. The 2002 International Conference on Physics and Chemistry of Molecular and Oxide Superconductors MOS2002, Hsinchu, Taiwan August 2002. | <i>international
advisory committee</i> |
| 47. Progress in Condensed Matter Theory, Dresden, Germany, October 2002. | <i>invited participant</i> |
| 48. 7th International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors M2S-HTSC, Rio de Janeiro, Brazil, May 2003. | <i>plenary talk
H. Kamerlingh
Onnes Prize</i> |
| 49. The 9th International Workshop on Vortex Dynamics and Vortex Matter, Oléron, France, June 2003. | <i>international
committee</i> |
| 50. NATO Advanced Research Workshop on Magneto-Optical Imaging, Øystese, Norway, August 2003. | <i>invited talk</i> |
| 51. Frontiers in Condensed Matter Physics, Russian-Israeli Conference, Shoshon, Israel, October 2003. | <i>invited talk</i> |
| 52. Correlated Electrons at High Magnetic Fields, Ein-Gedi, Israel, December 2004. | <i>invited talk</i> |
| 53. X th International Vortex State Studies Workshop, Mumbai, India, January, 2005. | <i>international
committee</i> |
| 54. 2005 March Meeting of the American Physical Society, Los Angeles, CA. | <i>invited symposium
talk</i> |
| 55. The 5 th Heinrich-Hertz Minerva Workshop on High Temperature Superconductivity, Kefar Hamaccabiah, Israel, May, 2005. | <i>invited talk</i> |
| 56. ECRYS-2005, International Workshop on Electronic Crystals, Cargese, France, August 2005. | <i>international
committee</i> |
| 57. 24 th International Conference on Low Temperature Physics, Orlando, Florida, August 2005. | <i>plenary talk,
internat. committee</i> |
| 58. The 11 th International Workshop on Vortex Matter, Wrocław, Poland, July 2006. | <i>international
committee</i> |

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| 59. Conference on Superconductivity and Magnetism in the Perovskites and other Novel Materials, Ramat Gan, Israel, May 2007. | <i>organizing committee</i> |
| 60. From BCS to Exotic Superconductivity Summer School, Cargèse, Corsica, France, July 2007. | <i>scientific committee</i> |
| 61. Tata Institute of Fundamental Research - Weizmann Institute of Science Interaction Meeting, Rehovot, Israel, May 2008. | <i>organizer</i> |
| 62. 25 th International Conference on Low Temperature Physics, Amsterdam, Netherlands, August 2008. | <i>program committee</i> |
| 63. 9 th International Conference on Materials and Mechanisms of Superconductivity M ² S-IX, Tokyo, Japan, September 7-12, 2009. | <i>invited talk</i> |
| 64. The 12 th International Workshop on Vortex Matter, Lake Yamanaka, Japan, September 2009. | <i>international committee</i> |
| 65. International Conference on Interaction, Instability, Transport and Kinetics: Glassiness and Jamming, Kanpur, India, February 2010. | <i>plenary talk, internat. committee</i> |
| 66. Workshop for Electronic Materials and Superconductivity, Ariel, Israel, August 2010. | <i>program committee</i> |
| 67. Topical Conference on Magnetism, Crystal Growth, and Photonics, Tel-Aviv, Israel, October 2010 | <i>invited talk</i> |
| 68. Workshop on Frontiers of Superconductivity and Magnetism, Porto de Galinhas, Brazil, December 2010 | <i>invited talk</i> |
| 69. Physical Phenomena at High Magnetic Fields, Tallahassee, Florida, December 2010 | <i>advisory committee</i> |
| 70. Workshop on Mesoscopic Superconductivity and Vortex Imaging, Bath, UK, May 2011 | <i>keynote talk</i> |
| 71. International Workshop on Superconducting Vortex Matter, Jinhua, China, May 2011 | <i>invited talk</i> |
| 72. 13 th International Workshop on Vortex Matter in Superconductors, Chicago, Illinois, August 2011 | <i>invited talk, internat. committee</i> |
| 73. 26 th International Conference on Low Temperature Physics (LT26), Beijing, China, August 2011 | <i>advisory board</i> |
| 74. Superconductivity Centennial Conference, Den Haag, Netherlands, September 2011 | <i>history of superconductivity book</i> |
| 75. International Conference on Superconductivity and Magnetism - ICSM 2012, Istanbul, Turkey, April 2012 | <i>invited talk</i> |
| 76. 10 th Materials and Mechanisms of Superconductivity Conference M2S - 2012, Washington DC, July 2012 | <i>Kamerlingh Onnes Prize Committee</i> |
| 77. 14 th International Workshop on Vortex Matter in Superconductors, Nanjing, China, May 2013 | <i>invited talk advisory committee</i> |
| 78. Joint European Symposia on Magnetism JEMS 2013, Rhodes, Greece, August 2013 | <i>invited talk</i> |
| 79. 8 th International Conference Vortex Matter in Nanostructured Superconductors Vortex VIII, Rhodes, Greece, September 2013 | <i>invited talk</i> |

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| 80. | 4 th International Conference on Superconductivity and Magnetism ICSM2014, Antalya, Turkey, May 2014 | <i>invited talk</i> |
| 81. | 27 th International Conference on Low Temperature Physics LT27, Buenos Aires, Argentina, August 2014 | <i>program committee</i> |
| 82. | European Materials Research Society Fall Meeting E-MRS2014, Warsaw, Poland, September 2014. | <i>invited talk</i> |
| 83. | Israel-Greece Joint Meeting on Nanotechnology and BioNanoscience, Rehovot, Israel, October 2014 | <i>invited talk</i> |
| 84. | 27 th International Symposium on Superconductivity ISS2014, Tokyo, Japan, November 2014 | <i>invited talk</i> |
| 85. | 15 th International Workshop on Vortex Matter in Superconductors, Vortex2015, El Escorial, Spain, May 2015 | <i>invited talk, organizing committee</i> |
| 86. | Nanoscience and Nanotechnology Conference NanoTR11, Ankara, Turkey, June 2015 | <i>plenary talk</i> |
| 87. | 5 th Nanoscale Magnetic Resonance Imaging Conference NanoMRI, Waterloo, Canada, July 2015 | <i>invited talk</i> |
| 88. | 11 th International Conference Materials and Mechanisms of Superconductivity M ² S2015 HTSC, Geneva, Switzerland, August 2015 | <i>invited talk, advisory committee</i> |
| 89. | 9 th International Conference Vortex Matter in Nanostructured Superconductors Vortex IX, Rhodes, Greece, September 2015 | <i>invited talk, management committee</i> |
| 90. | Physics at the Edge: from Topological Surfaces to Oxide Interfaces, Tel Aviv University - Tsinghua International Winter School, Tel Aviv, January 2016 | <i>invited talk</i> |
| 91. | International Conference on Quantum Condensed Matter, Engelberg, Switzerland, February 2016 | <i>invited talk</i> |
| 92. | Topology meets materials, Weizmann - Max Plank Dresden Workshop, Rehovot, February 2016 | <i>invited talk</i> |
| 93. | APS March Meeting, Baltimore, Maryland, March 2016 | <i>invited talk</i> |
| 94. | Weizmann-Alberta Nanoscience Meeting, Rehovot, March 2016 | <i>invited talk</i> |
| 95. | DIADEMS Summer School, Cargèse, Corsica, May 2016 | <i>invited talk</i> |
| 96. | WIS-MIT Condensed Matter Meeting on Correlated Topological Matter, Rehovot, May 2016 | <i>invited talk</i> |
| 97. | Plasma ⁺ 2016 - 10 th International Symposium on Intrinsic Josephson Effects and Plasma Oscillations, Nanjing, China, October 2016 | <i>invited talk</i> |
| 98. | 16th International Workshop on Vortex Matter, Natal, Brazil, May 2017 | <i>Chair, Abrikosov prize committee, organizing director, invited talk</i> |
| 99. | Topology meets materials workshop, Dresden, Germany, June 2017 | <i>invited talk</i> |

100. International Workshop: Topological matter meets quantum information, Shanghai, China, June 2017 *invited talk*
101. 22nd International Conference on Electronic Properties of Two Dimensional Systems (EP2DS-22), Penn State Univ., USA, July 2017 *invited talk*
102. SPIE Conference Spintronics X, San Diego, California, August 2017 *invited talk*
103. 13th European Conference on Applied Superconductivity, EUCAS 2017, Geneva, Switzerland, September 2017 *invited talk*
104. 13th Multinational Congress on Microscopy, MCM2017, Rovinj, Croatia, September 2017 *EMS Outstanding Paper Award, invited talk*
105. Winter school on Quantum Condensed-Matter Physics, Chernogolovka, Russia, December 2017 *invited talk*
106. 2017 Winter workshop on localization, interactions and superconductivity, Chernogolovka, Russia, December 2017 *invited talk*
107. 3rd WIS-MPI workshop – Topology meets materials, Jerusalem, Israel, February 2018 *invited talk*
108. APS March Meeting, Los Angeles, California, March 2018 *invited talk*
109. European Physical Society (EPS) and German Physical Society (DPG) Joint Annual Spring Meeting, Berlin, Germany, March 2018 *plenary talk*
110. 6th International Conference on Superconductivity and Magnetism-ICSM2018, Antalya, Turkey, April 2018 *plenary talk*
111. QHE2018 - International Symposium on Quantum Hall Effects and Related Topics, Stuttgart, Germany, June 2018 *invited talk*
112. CMCEE2018 - 12th International Conference on Ceramic Materials and Components for Energy and Environmental Applications, Singapore, July 2018 *keynote talk*
113. M²S-2018 - 12th International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors, Beijing, China, August 2018 *invited talk, Kamerlingh Onnes Prize Committee*
114. 84th IUVESTA Workshop on Surface Micro-Spectroscopy and Spectro-Microscopy of Electrical Phenomena, Rehovot, Israel, September 2018 *invited talk*
115. JEMS2018 - Joint European Magnetic Symposia, Mainz, Germany, September 2018 *invited talk*
116. IOP Workshop Cooling Electrons Below 1 mK for Novel Physics, Cardiff, UK, September 2018 *keynote talk*
117. NANO.IL.2018, Jerusalem, Israel, October 2018 *invited talk*
118. NMHT-VI: Nanoscale and Microscale Heat Transfer 2018, Levi, Lapland, Finland, December 2018 *keynote talk*
119. Winter School on 2D Materials, Rehovot, Israel, January 2019 *invited talk*
120. Aspen Winter Conference 2019: New Approaches to Strongly Correlated Quantum Systems, Aspen, CO, February 2019 *invited talk*

121. Les Rencontres de Moriond - Quantum Mesoscopic Physics, La Thuile, Italy, March 2019 *invited talk*
122. 4th WIS-MPI workshop – Topology Meets Materials, Dresden, Germany, May 2019 *invited talk*
123. Vortex 2019 Workshop, Antwerp, Belgium, May 2019 *invited talk
Abrikosov Prize*
124. Gordon Research Conference - Quantum Sensing Applications in Metrology and Imaging, Hong Kong, June 2019 *invited talk*
125. QTD2019 Quantum Thermodynamics Conference, Espoo, Finland, June 2019 *invited talk*
126. EUCAS 2019 – 14th European Conference on Applied Superconductivity, Glasgow, UK, September 2019 *invited talk*
127. SuperTop2019 Workshop – Emergent Phenomena at Low Dimensions, Rome, Italy, September 2019 *invited talk*
128. ISNTT2019, International School and Symposium on Nanoscale Transport and Photonics, Atsugi, Japan, November 2019 *invited talk*
129. KAIST – Weizmann Workshop on Quantum Condensed Matter Physics, Rehovot, Israel, December 2019 *invited talk*
130. APS March Meeting, Denver, CO, March 2020 (canceled due to COVID) *invited talk*
131. IWEPNM2020 – 34th International Winterschool on Electronic Properties of Novel Materials, Kirchberg, Austria, March 2020 *invited talk*
132. XXIV International Symposium Nanophysics and Nanoelectronics, Nizhny Novgorod, Russia, March 2020 (canceled due to COVID) *plenary talk*
133. RD2DS-2020 – Recent Developments in 2D Systems: Quantum Hall Effect at 40, Okinawa, Japan, April 2020 (canceled due to COVID) *invited talk*
134. Entangled States of Matter conference, Berlin, Germany, May 2020 (canceled due to COVID) *invited talk*
135. Physics of the Magic Angle Symposium, Jerusalem, Israel, June 2020 (canceled due to COVID) *invited talk*
136. International Workshop Electronic Correlations and Topology in Narrow Band Systems, Natal, Brazil, June 2020 (canceled due to COVID) *invited talk*
137. FQM2020 – Frontiers of Quantum Materials workshop, Valencia, Spain, June 2020 (canceled due to COVID) *invited talk*
138. International Workshop Cool Electrons in Flatlands, Catania, Italy, June 2020 *invited talk*
139. ICFO-MIT Online Symposium on Emergent phenomena in Moiré materials, July 2020 *invited talk*
140. Spin Mechanics VII Conference, Gerolfingen, Germany, Aug 2020 (canceled due to COVID) *invited talk*
141. 29th International Conference on Low Temperature Physics LT29, Sapporo, Japan, Aug 2020 (canceled due to COVID) *invited talk*

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| 142. Microscopy and Spectroscopy of Nanomaterials workshop, Rehovot, Israel, Sep 2020 (canceled due to COVID) | <i>invited talk</i> |
| 143. Nanoscale phenomena in low-dimensional structures and novel functional materials, Samarkand, Uzbekistan, Sep 2020 (canceled due to COVID) | <i>invited talk</i> |
| 144. Topological Superconductivity in Quantum Materials Workshop, Mainz, Germany, Oct 2020 (online) | <i>invited talk</i> |
| 145. Quantum Mesoscopic Physics Conference, La Thuile, Italy, Jan 2021 (canceled due to COVID) | <i>invited talk</i> |
| 146. Induced topological states and phases in quantum matter workshop, Rehovot, Israel, Jan 2021 (canceled due to COVID) | <i>invited talk</i> |
| 147. Magnetic Imaging Conference, Haar, Germany, Feb 2021 (online) | <i>invited talk</i> |
| 148. Towards Strong Correlations in Van Der Waals Heterostructures and 2D Materials Workshop, Antwerp, Belgium, March 2021 (online) | <i>plenary talk</i> |
| 149. The 8th International Workshop on Emergent Phenomena in Quantum Hall Systems (EPQHS-8), Princeton, NJ, May 2021 (online) | <i>invited talk</i> |
| 150. 18th International Workshop on Vortex Matter in Superconductors, New Delhi, India, May 2021 (online) | <i>invited talk</i>
<i>Scientific Committee</i> |
| 151. NSF Workshop on Emerging Opportunities at the Intersection of Quantum and Thermal Sciences, Austin, Texas, June 2021 (online) | <i>invited talk</i> |
| 152. Summer School in Quantum Technologies, Florence, Italy, Sep 2021 | <i>invited talk</i> |
| 153. Fundamentals and Advances in Mesoscopic Quantum Physics, Cargèse, France, Oct 2021 | <i>invited talk</i> |
| 154. ASTERIQS School on Solid-State Spins, Cargèse, France, Nov 2021 | <i>invited talk</i> |
| 155. 24th International Conference on Electronic Properties of Two-Dimensional Systems, Tokyo, Japan, Nov 2021 | <i>invited talk</i> |
| 156. 34th International Symposium on Superconductivity ISS2021, Tokyo, Japan, Nov 2021 | <i>International</i>
<i>Advisory Committee</i> |
| 157. APS March Meeting, Chicago, IL, March 2022 | <i>invited talk</i> |
| 158. ISSP Workshop Frontier of Scanning Probe Microscopy, Tokyo, Japan, March 2022 | <i>invited talk</i> |
| 159. MRS Spring Meeting, Honolulu, Hawai'i, May 2022 | <i>invited talk</i> |
| 160. Summer School Quantum Materials Design by vdW Stacking, Sliding and Twisting, Tel Aviv, Israel, June 2022 | <i>invited talk</i> |
| 161. Frontiers of Quantum Materials and Devices Conference, Valencia, Spain, June 2022 | <i>invited talk</i> |
| 162. Workshop on Quantum Systems and Technology, Monte Verita, Switzerland, June 2022 | <i>invited talk</i> |
| 163. Swiss NanoConvention, Fribourg, Switzerland, July 2022 | <i>keynote talk</i>
<i>Güntherordt Lecture</i> |
| 164. Novel Electronic Properties of 2D Materials, San Sebastian, Spain, July 2022 | <i>invited talk</i> |

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| 165. LT29 – 29 th International Conference on Low Temperature Physics, Sapporo, Japan, August 2022 | <i>half-plenary talk</i> |
| 166. Spin Mechanics VII Conference, Gerolfingen, Germany, August 2022 | <i>invited talk</i> |
| 167. CMD29 – 29 th General Conference of Condensed Matter Division of the European Physical Society (EPS), Manchester, UK, August 2022 | <i>invited talk</i> |
| 168. ICTP Conference Strongly Correlated Matter from Quantum Criticality to Flat Bands, Trieste, Italy, September 2022 | <i>invited talk</i> |
| 169. QMAT22 Conference on Quantum Condensed Matter, IIT Kanpur, India, September 2022 | <i>invited talk</i> |
| 170. Heraeus Conference Photon, Phonon, and Electron Transitions in Coupled Nanoscale Systems, Bad Honnef, Germany, September 2022 | <i>invited talk</i> |
| 171. ISS2022 35th International Symposium on Superconductivity, Tokyo, Japan, November 2022 | <i>International Advisory Committee</i> |
| 172. 2022 MRS Fall Meeting, Boston, MA, November 2022 | <i>invited talk</i> |
| 173. SRITP Quantum Many-Body Handshake: Theory and Simulation Meet Experiment, Rehovot, Israel, December 2022 | <i>invited talk</i> |
| 174. Emergent Phenomena in van der Waals Heterostructures Workshop, TIFR, Mumbai, India, January 2023 | <i>invited talk</i> |

Publications:

1. E. Zeldov and K. Weiser,
“Dispersive and Nondispersive Transport in Amorphous Semiconductors in Presence of Bias Illumination”,
Phys. Rev. Lett. **53** , pp. 1012-1015 (1984).
2. E. Zeldov, R. E. Viturro and K. Weiser,
“Determination of Bandtail Parameters and Recombination Mechanisms in a-Si:H by Comparative Study of Photoabsorption and Photoconductivity”,
Solid State Commun. **56** , pp. 867-870 (1985).
3. D. Ritter, E. Zeldov, and K. Weiser,
“Steady State Photocarrier Grating Technique for Diffusion Length Measurement of Photoconductive Insulators”,
Appl. Phys. Lett. **49**, pp. 791-793 (1986).
4. D. Ritter, K. Weiser, and E. Zeldov,
“The Steady State Photocarrier Grating Technique for Diffusion-Length Measurement in Semiconductors. Theory and Experimental Results for Amorphous Silicon and Semi-Insulating GaAs”,
J. Appl. Phys. **62**, pp. 4563-4570 (1987).

5. E. Zeldov and K. Weiser,
“Electron Equilibration in a-Si:H Bandtails Following Pulse Excitation”,
Solid State Commun. **67**, pp. 903-906 (1988).
6. D. Ritter, E. Zeldov, and K. Weiser,
“Ambipolar Transport in Amorphous Semiconductors in the Lifetime and Relaxation-Time
Regimes Investigated by the Steady-State Photocarrier Grating Technique”,
Phys. Rev. B **38**, pp. 8296-8304 (1988).
7. E. Zeldov, N. M. Amer, G. Koren, and A. Gupta,
“Nonbolometric Optical Response of YBa₂Cu₃O_{7- δ} Epitaxial Films”,
Phys. Rev. B **39**, pp. 9712-9714 (1989).
8. E. Zeldov, N. M. Amer, G. Koren, A. Gupta, R. J. Gambino, and M. W. McElfresh, “Optical
and Electrical Enhancement of Flux Creep in YBa₂Cu₃O_{7- δ} Epitaxial Films”,
Phys. Rev. Lett. **62**, pp. 3093-3096 (1989).
9. A. P. Malozemoff, T. K. Worthington, E. Zeldov, N. C. Yeh, M. W. McElfresh, and F.
Holtzberg, “Flux Creep and the Crossover to Flux Flow in the Resistivity of High-T_c
Superconductors”, in “Springer Series in Solid-State Sciences, **89**, Strong Correlation and
Superconductivity”, eds. H. Fukuyama, S. Maekawa, A.P. Malozemoff (Springer-Verlag,
Heidelberg 1989), pp. 349-360.
10. E. Zeldov, N. M. Amer, G. Koren, A. Gupta, M. W. McElfresh, and R. J. Gambino,
“Flux Creep Characteristics in High-Temperature Superconductors”,
Appl. Phys. Lett. **56**, pp. 680-682 (1990).
11. E. Zeldov, N. M. Amer, G. Koren, and A. Gupta,
“Flux Creep in Bi₂Sr₂CaCu₂O₈ Epitaxial Films”,
Appl. Phys. Lett. **56**, pp. 1700-1702 (1990).
12. E. Zeldov and N. M. Amer,
“Flux-Pinning Energies in High-T_c Superconductors”,
Phys. Rev. Lett. **65**, 278 (1990).
13. H. P. Bonzel, U. Breuer, B. Voigtlander, and E. Zeldov,
“Temperature-Dependent Morphologies of Gold Surfaces”,
Surface Science **272**, pp. 10-16 (1992).
14. M. Darwin, J. Deak, L. Hou, M. McElfresh, E. Zeldov, J. R. Clem, and M. Indenbom, “Effect
of Transport Currents on the Critical State of YBa₂Cu₃O_{7- δ} Thin Films”,
Phys. Rev. B **48**, pp. 13192-13195 (1993).
15. E. Zeldov, J. R. Clem, M. McElfresh, and M. Darwin,
“Magnetization and Transport Currents in Thin Superconducting Films”,
Phys. Rev. B **49**, pp. 9802-9822 (1994).
16. E. Zeldov, A. I. Larkin, V. B. Geshkenbein, M. Konczykowski, D. Majer, B. Khaykovich,
V. M. Vinokur, and H. Shtrikman,
“Geometrical Barriers in High-Temperature Superconductors”,
Phys. Rev. Lett. **73**, pp. 1428-1431 (1994).
17. M. McElfresh, E. Zeldov, J. R. Clem, M. Darwin, J. Deak, and L. Hou,
“Local Time-Dependent Magnetization of Superconducting Films in the Presence of a
Transport Current”,
Phys. Rev. B **51**, pp. 9111-9117 (1995).

18. E. Zeldov, D. Majer, M. Konczykowski, A. I. Larkin, V. M. Vinokur, V. B. Geshkenbein, N. Chikumoto, and H. Shtrikman,
“Nature of the Irreversibility Line in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Europhys. Lett. **30**, pp. 367-372 (1995).
19. E. Zeldov, D. Majer, M. Konczykowski, V. B. Geshkenbein, V. M. Vinokur, and H. Shtrikman,
“Thermodynamic Observation of First-Order Vortex-Lattice Melting Transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Nature **375**, pp. 373-376 (1995).
20. D. Majer, E. Zeldov, and M. Konczykowski,
“Separation of Irreversibility and Melting Lines in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Crystals”,
Phys. Rev. Lett. **75**, pp. 1166-1169 (1995).
21. Y. Abulafia, A. Shaulov, Y. Wolfus, R. Prozorov, L. Burlachkov, Y. Yeshurun, D. Majer, E. Zeldov, and V. M. Vinokur,
“Local Magnetic Relaxation in High-Temperature Superconductors”,
Phys. Rev. Lett. **75**, pp. 2404-2407 (1995).
22. N. Morozov, E. Zeldov, D. Majer, and B. Khaykovich,
“Negative Local Permeability in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Crystals”,
Phys. Rev. Lett. **76**, pp. 138-141 (1996).
23. B. Khaykovich, E. Zeldov, D. Majer, T. W. Li, P. H. Kes, and M. Konczykowski,
“Vortex-Lattice Phase Transitions in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Crystals with Different Oxygen Stoichiometry”,
Phys. Rev. Lett. **76**, pp. 2555-2558 (1996).
24. D. Majer, E. Zeldov, H. Shtrikman, and M. Konczykowski,
“Local Magnetization Measurements in High Temperature Superconductors” in “Coherence in High Temperature Superconductors”, eds. G. Deutscher and A. Revcolevschi, World Scientific (Singapore, 1996) pp. 271-296.
25. Y. Abulafia, A. Shaulov, Y. Wolfus, R. Prozorov, L. Burlachkov, Y. Yeshurun, D. Majer, E. Zeldov, and V. M. Vinokur,
“Investigation of Flux Creep in Superconductors using Hall-Probe Array” in “Coherence in High Temperature Superconductors”, eds. G. Deutscher and A. Revcolevschi, World Scientific (Singapore, 1996) pp. 297-311.
26. M. Wurlitzer, F. Mrowka, P. Esquinazi, K. Rogacki, B. Dabrowski, E. Zeldov, T. Tamegai, and S. Ooi,
“Global ac Susceptibility of Low Pinning High- T_c Crystals Near T_c ”,
Z. Phys. B **101**, 561-564 (1996).
27. D. T. Fuchs, E. Zeldov, D. Majer, R. A. Doyle, T. Tamegai, S. Ooi, and M. Konczykowski,
“Simultaneous Resistivity Onset and First-Order Vortex-Lattice Phase Transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Phys. Rev. B **54**, pp. R796-R799 (1996).
28. N. Morozov, E. Zeldov, D. Majer, and M. Konczykowski,
“Paramagnetic ac Susceptibility at First-Order Vortex-Lattice Phase Transition”,
Phys. Rev. B **54**, pp. R3784-R3787 (1996).

29. Y. Abulafia, A. Shaulov, Y. Wolfus, R. Prozorov, L. Burlachkov, Y. Yeshurun, D. Majer, E. Zeldov, H. Wuhl, V. B. Geshkenbein, and V. M. Vinokur,
“Plastic Vortex Creep in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Crystals”,
Phys. Rev. Lett. **77**, pp. 1596-1599 (1996).
30. P. H. Kes, H. Pastoriza, T. W. Li, R. Cubitt, E. M. Forgan, S. L. Lee, M. Konczykowski, B. Khaykovich, D. Majer, T. D. Fuchs, and E. Zeldov,
“Flux Lattice Melting and Dimensional Crossover in Bi-2212 Single Crystals”,
J. de Phys. I France **6**, pp. 2327-2354 (1996).
31. D. T. Fuchs, R. A. Doyle, E. Zeldov, D. Majer, W. S. Seow, T. Tamegai, S. Ooi, R. Drost, M. Konczykowski, and P. H. Kes,
“Resistive Evidence for Vortex-Lattice Sublimation in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Phys. Rev. B **55**, pp. R6156-R6159 (1997).
32. B. Schmidt, M. Konczykowski, N. Morozov, and E. Zeldov,
“Angular Dependence of the First-Order Vortex-Lattice Phase Transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Phys. Rev. B **55**, pp. R8705-R8708 (1997).
33. Y. Abulafia, D. Giller, Y. Wolfus, A. Shaulov, Y. Yeshurun, D. Majer, E. Zeldov, J. L. Peng, and R. L. Greene,
“Investigation of Flux Creep in High- T_c Superconductors Using Hall-Sensor Array”,
J. Appl. Phys. **81**, pp. 4944-4946 (1997).
34. B. Khaykovich, M. Konczykowski, E. Zeldov, R. A. Doyle, D. Majer, P. H. Kes, and T. W. Li,
“Vortex-Matter Phase Transitions in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$: Effects of Weak Disorder”,
Phys. Rev. B **56**, pp. R517-R520 (1997).
35. N. Morozov, E. Zeldov, M. Konczykowski, and R. A. Doyle,
“Geometrical and Distributed Surface Barriers in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Physica C **291**, pp. 113-131 (1997).
36. D. Giller, A. Shaulov, R. Prozorov, Y. Abulafia, Y. Wolfus, L. Burlachkov, Y. Yeshurun, E. Zeldov, V. M. Vinokur, J. L. Peng, and R. L. Greene,
“Disorder-Induced Transition to Entangled Vortex-Solid in Nd-Ce-Cu-O crystal”,
Phys. Rev. Lett. **79**, pp. 2542-2545 (1997).
37. A. Thiaville, L. Belliard, D. Majer, E. Zeldov, and J. Miltat,
“Measurement of the Stray Field Emanating from Magnetic Force Microscope Tips by Hall Effect Microsensors”,
J. Appl. Phys. **82**, pp. 3182-3191 (1997).
38. V. M. Vinokur, B. Khaykovich, E. Zeldov, M. Konczykowski, R. A. Doyle, and P. H. Kes,
“Lindemann Criterion and Vortex-Matter Phase Transitions in High-Temperature Superconductors”,
Physica C **295**, pp. 209-217 (1998).
39. B. Khaykovich, M. Konczykowski, K. Teitelbaum, E. Zeldov, H. Shtrikman, and M. Rappaport,
“Effect of Columnar Defects on the Vortex-Solid Melting Transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Phys. Rev. B **57**, pp. R14088-R14091 (1998).

40. Y. Abulafia, M. McElfresh, A. Shaulov, Y. Yeshurun, Y. Paltiel, D. Majer, H. Shtrikman, and E. Zeldov,
“Measurement of the Magnetic Induction Vector in Superconductors Using a Double-Layer Hall Sensor Array”,
Appl. Phys. Lett. **72**, pp. 2891-2893 (1998).
41. R. A. Doyle, S.F.W.R. Rycroft, T. B. Doyle, E. Zeldov, T. Tamegai, and S. Ooi,
“Role of Sample Geometry on Nonlinear Transport Properties of the Vortex Solid in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Phys. Rev. B **58**, pp. 135-138 (1998).
42. D. T. Fuchs, E. Zeldov, M. Rappaport, T. Tamegai, S. Ooi, and H. Shtrikman,
“Transport Properties Governed by Surface Barriers in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Nature **391**, pp. 373-376 (1998).
43. D. T. Fuchs, E. Zeldov, T. Tamegai, S. Ooi, M. Rappaport, and H. Shtrikman,
“Possible New Vortex Matter Phases in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Phys. Rev. Lett. **80**, pp. 4971-4974 (1998).
44. R. A. Doyle, S.F.W.R. Rycroft, C. D. Dewhurst, E. Zeldov, I. Tsabba, S. Reich, T. B. Doyle, T. Tamegai, and S. Ooi,
“The Effect of Sample Shape on the Magnetisation in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Crystals”,
Physica C **308**, pp. 123-131 (1998).
45. Y. Paltiel, D. T. Fuchs, E. Zeldov, Y. N. Myasoedov, H. Shtrikman, M. L. Rappaport, and E. Andrei,
“Surface Barrier Dominated Transport in NbSe_2 ”,
Phys. Rev. B **58**, pp. R14763-R14766 (1998).
46. D. T. Fuchs, R. A. Doyle, E. Zeldov, S.F.W.R. Rycroft, T. Tamegai, S. Ooi, M. L. Rappaport, and Y. Myasoedov,
“Transport Properties of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Crystals with and without Surface Barriers”,
Phys. Rev. Lett. **81**, pp. 3944-3947 (1998).
47. F. Mrowka, M. Wurlitzer, P. Esquinazi, E. Zeldov, T. Tamegai, S. Ooi, K. Rogacki, and B. Dabrowski,
“Temperature Dependence of the Lower Critical Field of High- T_c Superconducting Crystals Near T_c ”,
Phys. Rev. B **60**, pp. 4370-4377 (1999).
48. C. D. Dewhurst, R. A. Doyle, E. Zeldov, and D. McK. Paul,
“Interaction Between Magnetic Order and the Vortex Lattice in $\text{HoNi}_2\text{B}_2\text{C}$ ”,
Phys. Rev. Lett. **82**, pp. 827-830 (1999).
49. Y. Abulafia, Y. Wolfus, M. McElfresh, A. Shaulov, Y. Yeshurun, Y. Paltiel, H. Shtrikman, and E. Zeldov,
“Hall-Array Gradiometer for Measurement of the Magnetic Induction Vector in Superconductors”,
J. Appl. Phys. **85**, pp. 5471-5473 (1999).
50. S.F.W.R. Rycroft, R. A. Doyle, D. T. Fuchs, E. Zeldov, R. J. Drost, P. H. Kes, T. Tamegai, S. Ooi, and D. T. Foord,
“Bulk Transport Properties of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Crystals in the Corbino Disk Geometry”,
Phys. Rev. B **60**, pp. R757-R760 (1999).

51. P. Esquinazi, A. Setzer, D. Fuchs, Y. Kopelevich, E. Zeldov and C. Assmann,
“Vortex Avalanches in Nb thin films: Global and Local Magnetization Measurements”,
Phys. Rev. B **60**, pp. 12454-12461 (1999).
52. S.F.W.R. Rycroft, R. A. Doyle, D. T. Fuchs, E. Zeldov, R. J. Drost, P. H. Kes, T. Tamegai,
S. Ooi, A. M. Campbell, W. Y. Liang, and D. T. Foord,
“Effects of Surface Barriers on Transport Properties of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Single Crystals
Using the Corbino Disk Configuration”,
Supercond. Sci. Technol. **12**, pp. 1067-1070 (1999).
53. C. A. Bolle, V. Aksyuk, F. Pardo, P. L. Gammel, E. Zeldov, E. Bucher, R. Boie, D. J. Bishop,
and D. R. Nelson,
“Observation of Mesoscopic Vortex Physics Using Micromechanical Oscillators”,
Nature **399**, pp. 43 - 46 (1999).
54. B. Khaykovich, D. T. Fuchs, K. Teitelbaum, Y. Myasoedov, E. Zeldov, T. Tamegai, S. Ooi,
M. Konczykowski, R. A. Doyle, and S.F.W.R. Rycroft,
“Shear-Induced Vortex Decoupling in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Crystals”,
Phys. Rev. B **61**, pp. R9261-R9264 (2000).
55. Y. Paltiel, E. Zeldov, Y. N. Myasoedov, H. Shtrikman, S. Bhattacharya, M. J. Higgins, Z. L.
Xiao, E. Y. Andrei, P. L. Gammel, and D. J. Bishop,
“Dynamic Instabilities and Memory Effects in Vortex Matter”,
Nature **403**, pp. 398 - 401 (2000).
56. A. Soibel, E. Zeldov, M. Rappaport, Y. Myasoedov, T. Tamegai, S. Ooi, M. Konczykowski,
and V. B. Geshkenbein,
“Imaging the Vortex-Lattice Melting Process in the Presence of Disorder”,
Nature **406**, pp. 282 - 287 (2000).
57. Y. Paltiel, E. Zeldov, Y. Myasoedov, M. L. Rappaport, G. Jung, S. Bhattacharya, M. J.
Higgins, Z. L. Xiao, E. Y. Andrei, P. L. Gammel, and D. J. Bishop,
“Instabilities and Disorder-Driven First-Order Transition of the Vortex Lattice”,
Phys. Rev. Lett. **85**, pp. 3712 - 3715 (2000).
58. C. D. Dewhurst, S. S. James, R. A. Doyle, Y. Paltiel, H. Shtrikman, E. Zeldov, and D. McK.
Paul,
“Vortex Pinning by Magnetic Order in $\text{ErNi}_2\text{B}_2\text{C}$ ”,
Phys. Rev. B **63**, 060501, pp. 1-4 (2001).
59. G. Jung, M. Ocio, Y. Paltiel, H. Shtrikman, and E. Zeldov,
“Magnetic Noise Measurements Using Cross-Correlated Hall Sensor Arrays”,
Appl. Phys. Lett. **78**, pp. 359-361 (2001).
60. N. Avraham, B. Khaykovich, Y. Myasoedov, M. Rappaport, H. Shtrikman, D. E. Feldman,
T. Tamegai, P. H. Kes, M. Li, M. Konczykowski, K. van der Beek, and E. Zeldov,
“Inverse Melting of a Vortex Lattice”,
Nature **411**, pp. 451 - 454 (2001).
61. S. S. James, C. D. Dewhurst, S. B. Field, D. McK. Paul, Y. Paltiel, H. Shtrikman, E. Zeldov,
and A. M. Campbell,
“Flux Pinning Mechanisms in $\text{ErNi}_2\text{B}_2\text{C}$ ”,
Phys. Rev. B **64**, 092512, pp. 1-4 (2001).

62. K. M. Mertes, Yicheng Zhong, M. P. Sarachik, Y. Paltiel, H. Shtrikman, E. Zeldov, E. Rumberger, D. N. Hendrickson, and G. Christou,
“Abrupt Crossover Between Thermally Activated Relaxation and Quantum Tunneling in a Molecular Magnet”,
Europhys. Lett. **55**, pp. 874-879 (2001).
63. A. Soibel, Y. Myasoedov, M. L. Rappaport, T. Tamegai, S. S. Banerjee, and E. Zeldov,
“Temperature Variations of the Disorder-Induced Vortex-Lattice-Melting Landscape”,
Phys. Rev. Lett. **87**, 167001, pp. 1-4 (2001).
64. K. M. Mertes, Y. Suzuki, M. P. Sarachik, Y. Paltiel, H. Shtrikman, E. Zeldov, E. Rumberger, D. N. Hendrickson, and G. Christou,
“Distribution of Tunnel Splittings in Mn_{12} Acetate”,
Phys. Rev. Lett. **87**, 227205, pp. 1-4 (2001).
65. Z. L. Xiao, E. Y. Andrei, Y. Paltiel, E. Zeldov, P. Shuk, and M. Greenblatt,
“Edge and Bulk Transport in the Mixed State of a Type-II Superconductor”,
Phys. Rev. B **65**, 094511, pp. 1-4 (2002).
66. Y. Paltiel, G. Jung, Y. Myasoedov, M. L. Rappaport, E. Zeldov, M. J. Higgins, and S. Bhattacharya,
“Dynamic Creation and Annihilation of Metastable Vortex Phase as a Source of Excess Noise”,
Europhys. Lett. **58**, pp. 112-118 (2002).
67. Y. Paltiel, G. Jung, Y. Myasoedov, M. L. Rappaport, E. Zeldov, S. Bhattacharya, and M. J. Higgins,
“Flux-Flow Noise in the Vicinity of the Peak Effect”,
Fluctuation and Noise Lett. **2**, pp. L31-L36 (2002).
68. Y. Fasano, M. Menghini, F. de la Cruz, Y. Paltiel, Y. Myasoedov, E. Zeldov, M. J. Higgins, and S. Bhattacharya,
“Order-Disorder Phase Transition in $NbSe_2$: Absence of Amorphous Vortex Matter”,
Phys. Rev. B **66**, 020512(R), pp. 1-4 (2002).
69. Y. Paltiel, Y. Myasoedov, E. Zeldov, G. Jung, M. L. Rappaport, D. E. Feldman, M. J. Higgins, and S. Bhattacharya,
“V-I Characteristics in the Vicinity of the Order-Disorder Transition in Vortex Matter”,
Phys. Rev. B **66**, 060503(R), pp. 1-4 (2002).
70. K. M. Mertes, Y. Suzuki, M. P. Sarachik, Y. Paltiel, H. Shtrikman, E. Zeldov, E. M. Rumberger, D. N. Hendrickson, and G. Christou,
“Ground-state tunneling in Mn_{12} -acetate”,
Phys. Rev. B **65**, 212401, pp. 1-4 (2002).
71. S. S. Banerjee, A. Soibel, Y. Myasoedov, M. Rappaport, E. Zeldov, M. Menghini, Y. Fasano, F. de la Cruz, C. J. van der Beek, M. Konczykowski, and T. Tamegai,
“Melting of ‘Porous’ Vortex Matter”,
Phys. Rev. Lett. **90**, 087004, pp. 1-4 (2003).
72. M. Menghini, Y. Fasano, F. de la Cruz, S. S. Banerjee, Y. Myasoedov, E. Zeldov, C. J. van der Beek, M. Konczykowski, and T. Tamegai,
“First-order transition from the vortex liquid to an amorphous solid”,
Phys. Rev. Lett. **90**, 147001, pp. 1-4 (2003).

73. K. M. Mertes, Y. Suzuki, M. P. Sarachik, Y. Myasoedov, H. Shtrikman, E. Zeldov, E. M. Rumberger, D. N. Hendrickson, and G. Christou,
“Mn₁₂-acetate: a prototypical single molecule magnet”,
Solid State Commun. **127**, pp. 131-139 (2003).
74. Y. Paltiel, G. Jung, Y. Myasoedov, M. L. Rappaport, E. Zeldov, M. Ocio, M. J. Higgins, and S. Bhattacharya,
“Velocity-Fluctuations-Dominated Flux-Flow Noise in the Peak Effect”,
Europhys. Lett. **66**, pp. 412-418 (2004).
75. S. S. Banerjee, S. Goldberg, A. Soibel, Y. Myasoedov, M. Rappaport, E. Zeldov, F. de la Cruz, C. J. van der Beek, M. Konczykowski, T. Tamegai, and V. M. Vinokur,
“Vortex nanoliquid in high-temperature superconductors”,
Phys. Rev. Lett. **93**, 097002, pp. 1-4 (2004).
76. M. Bal, J. R. Friedman, Y. Suzuki, K. Mertes, E. M. Rumberger, D. N. Hendrickson, Y. Myasoedov, H. Shtrikman, N. Avraham, and E. Zeldov,
“Photon-induced magnetization reversal in the Fe₈ single-molecule magnet”,
Phys. Rev. B **70**, 100408(R), pp. 1-4 (2004).
77. M. Bal, J. R. Friedman, K. Mertes, W. Chen, E. M. Rumberger, D. N. Hendrickson, N. Avraham, Y. Myasoedov, H. Shtrikman, and E. Zeldov,
“Experimental upper bound on superradiance emission from Mn₁₂ acetate”,
Phys. Rev. B **70**, 140403(R), pp. 1-4 (2004).
78. E. Altshuler, T. H. Johansen, Y. Paltiel, Peng Jin, K. E. Bassler, O. Ramos, Q. Y. Chen, G. F. Reiter, E. Zeldov, and C. W. Chu,
“Vortex avalanches with robust statistics observed in superconducting niobium”,
Phys. Rev. B **70**, 140505(R), pp. 1-4 (2004).
79. M. Menghini, Y. Fasano, F. de la Cruz, S. S. Banerjee, Y. Myasoedov, E. Zeldov, C. J. van der Beek, M. Konczykowski, and T. Tamegai,
“Role of the vortex solid topology in a first-order liquid-solid phase transition”, Perspectives on Superconductivity Research, Paul S. Lewis (editor), Nova Publishers 2005, pp. 81-102.
80. M. Bal, J. R. Friedman, Y. Suzuki, E. M. Rumberger, D. N. Hendrickson, N. Avraham, Y. Myasoedov, H. Shtrikman, and E. Zeldov,
“Non-equilibrium magnetization dynamics in the Fe₈ single-molecule magnet induced by high-intensity microwave radiation”,
Europhys. Lett. **71**, pp. 110-116 (2005).
81. N. Avraham, A. Stern, Y. Suzuki, K.M. Mertes, M. P. Sarachik, E. Zeldov, Y. Myasoedov, H. Shtrikman, E. M. Rumberger, D. N. Hendrickson, N. E. Chakov, and G. Christou,
“Local Measurements of Magnetization in Mn₁₂ Crystals”,
Phys. Rev. B **72**, 144428, pp. 1-6 (2005).
82. Yoko Suzuki, M. P. Sarachik, E. M. Chudnovsky, S. McHugh, R. Gonzalez-Rubio, Nurit Avraham, Y. Myasoedov, E. Zeldov, H. Shtrikman, N. E. Chakov, and G. Christou,
“Propagation of Avalanches in Mn₁₂-Acetate: Magnetic Deflagration”,
Phys. Rev. Lett. **95**, 147201, pp. 1-4 (2005).

83. H. Beidenkopf, N. Avraham, Y. Myasoedov, H. Shtrikman, E. Zeldov, B. Rosenstein, E. H. Brandt, and T. Tamegai,
“Equilibrium first-order melting and second-order glass transitions of the vortex matter in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Phys. Rev. Lett. **95**, 257004, pp. 1-4 (2005).
84. E. H. Brandt, G. P. Mikitik, and E. Zeldov,
“Self field of ac current reveals voltage-current law in type-II superconductors”,
Phys. Rev. B **74**, 094506, pp. 1-13 (2006).
85. B. Kalisky, Y. Myasoedov, A. Shaulov, T. Tamegai, E. Zeldov, and Y. Yeshurun,
“Dynamic order-to-metastable-disorder vortex matter transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ ”,
Phys. Rev. Lett. **98**, 107001, pp. 1-4 (2007).
86. C. W. Hicks, L. Luan, K. A. Moler, E. Zeldov, and H. Shtrikman,
“Noise characteristics of 100 nm scale GaAs/ $\text{Al}_x\text{Ga}_{1-x}\text{As}$ scanning Hall probes”,
Appl. Phys. Lett. **90**, 133512, pp. 1-3 (2007).
87. H. Beidenkopf, T. Verdene, Y. Myasoedov, H. Shtrikman, E. Zeldov, B. Rosenstein, D. Li, and T. Tamegai,
“Interplay of anisotropy and disorder in the doping-dependent melting and glass transitions of vortices in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ ”,
Phys. Rev. Lett. **98**, 167004, pp. 1-4 (2007).
88. N. Avraham, Y. Y. Goldschmidt, J. T. Liu, Y. Myasoedov, M. Rappaport, E. Zeldov, C. J. van der Beek, M. Konczykowski, and T. Tamegai,
“Dynamic and Thermodynamic Properties of Porous Vortex Matter in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ in an Oblique Magnetic Field”,
Phys. Rev. Lett. **99**, 087001, pp. 1-4 (2007).
89. S. McHugh, R. Jaafar, M. P. Sarachik, Y. Myasoedov, A. Finkler, H. Shtrikman, E. Zeldov, R. Bagai, and G. Christou,
“Effect of quantum tunneling on the ignition and propagation of magnetic avalanches in Mn_{12} acetate”,
Phys. Rev. B **76**, 172410, pp. 1-4 (2007).
90. R. Jaafar, S. McHugh, Y. Suzuki, M.P. Sarachik, Y. Myasoedov, E. Zeldov, H. Shtrikman, R. Bagai, and G. Christou,
“Spatial determination of magnetic avalanche ignition points”,
J. Magn. Magn. Mater. **320**, pp. 695-698 (2008).
91. N. Avraham, E. H. Brandt, G. P. Mikitik, Y. Myasoedov, M. Rappaport, E. Zeldov, C. J. van der Beek, M. Konczykowski, and T. Tamegai,
“Influence of spatial variations in the lower critical field on the equilibrium field penetration into superconductors”,
Phys. Rev. B **77**, 214525, pp. 1-8 (2008).
92. T. Verdene, H. Beidenkopf, Y. Myasoedov, H. Shtrikman, M. Rappaport, E. Zeldov, and T. Tamegai,
“Multiple changes of order of the vortex melting transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ with dilute columnar defects”,
Phys. Rev. Lett. **101**, 157003, pp. 1-4 (2008).
93. O.M. Auslaender, L. Luan, E.W.J. Straver, J.E. Hoffman, N.C. Koshnick, E. Zeldov, D.A. Bonn, R. Liang, W.N. Hardy, and K.A. Moler,
“Mechanics of individual isolated vortices in a cuprate superconductor”,
Nature Physics **5**, pp. 35-39 (2009).

94. S. McHugh, R. Jaafar, M. P. Sarachik, Y. Myasoedov, H. Shtrikman, E. Zeldov, R. Bagai, and G. Christou
“Experimental determination of the dipolar field in Mn_{12} -acetate”,
Phys. Rev. B **79**, 052404, pp. 1-3 (2009).
95. S. Goldberg, Y. Segev, Y. Myasoedov, I. Gutman, N. Avraham, M. Rappaport, E. Zeldov, T. Tamegai, C. W. Hicks, and K. A. Moler,
“Mott insulator phases and first-order melting in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ crystals with periodic surface holes”,
Phys. Rev. B **79**, 064523, pp. 1-10 (2009).
96. S. McHugh, Bo Wen, Xiang Ma, M. P. Sarachik, Y. Myasoedov, E. Zeldov, R. Bagai, and G. Christou,
“Tuning magnetic avalanches in the molecular magnet Mn_{12} -acetate”,
Phys. Rev. B **79**, 174413, pp. 1-7 (2009).
97. B. Kalisky, J. R. Kirtley, E. A. Nowadnick, R. B. Dinner, E. Zeldov, Ariando, S. Wenderich, H. Hilgenkamp, D. M. Feldmann, and K. A. Moler,
“Dynamics of single vortices in grain boundaries: I-V characteristics on the femtovolt scale”,
Appl. Phys. Lett. **94**, 202504, pp. 1-3 (2009).
98. S. McHugh, R. Jaafar, M. P. Sarachik, Y. Myasoedov, A. Finkler, E. Zeldov, R. Bagai, and G. Christou,
“Magnetic avalanches of minor fast-relaxing species of Mn_{12} acetate”,
Phys. Rev. B **80**, 024403, pp. 1-8 (2009).
99. E. H. Brandt, G. P. Mikitik, and E. Zeldov,
“Nanomechanics of an individual vortex in an anisotropic type-II superconductor”,
Phys. Rev. B **80**, 054513, pp. 1-10 (2009).
100. H. Beidenkopf, Y. Myasoedov, E. Zeldov, E. H. Brandt, G. P. Mikitik, T. Tamegai, T. Sasagawa, and C. J. van der Beek,
“Transport properties of vortex matter governed by the edge inductance in superconducting $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ crystals”,
Phys. Rev. B **80**, 224526, pp. 1-5 (2009).
101. A. Finkler, Y. Segev, Y. Myasoedov, M. L. Rappaport, L. Ne’eman, D. Vasyukov, E. Zeldov, M. E. Huber, J. Martin and A. Yacoby,
“Self-aligned nanoscale SQUID on a tip”,
Nano Lett. **10**, pp. 1046-1049 (2010).
102. I. M. Babich, E. H. Brandt, G. P. Mikitik, and E. Zeldov,
“Critical current in type-II superconductors near the order-disorder transition”,
Phys. Rev. B **81**, 054517, pp. 1-7 (2010).
103. Y. Segev, I. Gutman, S. Goldberg, Y. Myasoedov, E. Zeldov, E. H. Brandt, G. P. Mikitik, T. Katagiri, and T. Sasagawa,
“Suppression of geometrical barrier in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ crystals by Josephson vortex stacks”,
Phys. Rev. B **83**, 104520, pp. 1-9 (2011).
104. Y. Segev, Y. Myasoedov, E. Zeldov, T. Tamegai, G. P. Mikitik and E. H. Brandt,
“Lamellar solid-liquid mesophase nucleated by Josephson vortices at the melting of the vortex lattice in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ superconductor”,
Phys. Rev. Lett. **107**, 247001, pp. 1-5 (2011).

105. Eli Zeldov,
“Vortex Matter in Anisotropic Superconductors”,
in “100 Years of Superconductivity”, Eds. H. Rogalla and P. H. Kes, Taylor & Francis (2012),
pp. 222-230.
106. A. Finkler, D. Vasyukov, Y. Segev, L. Ne'eman, E. O. Lachman, M. L. Rappaport, Y. Myasoedov, E. Zeldov, and M. E. Huber,
“Scanning superconducting quantum interference device on a tip for magnetic imaging of nanoscale phenomena”,
Rev. Sci. Instrum. **83**, 073702, pp. 1-7 (2012).
107. S. T. Adams, E. H. da Silva Neto, S. Datta, J. F. Ware, C. Lampropoulos, G. Christou, Y. Myasoedov, E. Zeldov, and J. R. Friedman,
“Geometric-phase interference in a Mn_{12} single-molecule magnet with fourfold rotational symmetry”,
Phys. Rev. Lett. **110**, 087205, pp. 1-5 (2013).
108. J. H. Atkinson, K. Park, C. C. Beedle, D. N. Hendrickson, Y. Myasoedov, E. Zeldov, and J. R. Friedman,
“The effect of uniaxial pressure on the magnetic anisotropy of the Mn_{12} -Ac single-molecule magnet”,
Europhys. Lett., **102**, 47008, pp. 1-6 (2013).
109. D. Vasyukov, Y. Anahory, L. Embon, D. Halbertal, J. Cuppens, L. Neeman, A. Finkler, Y. Segev, Y. Myasoedov, M. L. Rappaport, M. E. Huber, and E. Zeldov,
“A scanning superconducting quantum interference device with single electron spin sensitivity”,
Nature Nanotech. **8**, pp. 639-644 (2013).
110. S. Butsch, E. Zeldov, and T. Nattermann,
“Pre-melting of crossing vortex lattices”,
Europhys. Lett. **103**, 47007, pp. 1-5 (2013).
111. E. H. Brandt, G. P. Mikitik, and E. Zeldov,
“Two regimes of vortex penetration into platelet-shaped type-II superconductors”,
JETP **117**, pp. 439–448 (2013).
112. M. Honig, J. A. Sulpizio, J. Drori, A. Joshua, E. Zeldov, and S. Ilani,
“Local electrostatic imaging of striped domain order in $\text{LaAlO}_3/\text{SrTiO}_3$ ”,
Nature Materials **12**, pp. 1112–1118 (2013).
113. T. Leviant, A. Keren, E. Zeldov, and Y. Myasoedov,
“Quantum ignition of deflagration in the Fe_8 molecular magnet”
Phys. Rev. B **90**, 134405, pp. 1-5 (2014).
114. Y. Anahory, J. Reiner, L. Embon, D. Halbertal, A. Yakovenko, Y. Myasoedov, M. L. Rappaport, M. E. Huber, and E. Zeldov,
“Three-junction SQUID-on-tip with tunable in-plane and out-of-plane magnetic field sensitivity”,
Nano Lett. **14**, pp. 6481-6487 (2014).
115. L. Embon, Y. Anahory, A. Suhov, D. Halbertal, J. Cuppens, A. Yakovenko, A. Uri, Y. Myasoedov, M. L. Rappaport, M. E. Huber, A. Gurevich, and E. Zeldov,
“Probing dynamics and pinning of single vortices in superconductors at nanometer scales”,
Scientific Reports **5**, 7598, pp. 1-9 (2015).

116. E. O. Lachman, A. F. Young, A. Richardella, J. Cuppens, H. R. Naren, Y. Anahory, A. Y. Meltzer, A. Kandala, S. Kempinger, Y. Myasoedov, M. E. Huber, N. Samarth, and E. Zeldov, “Visualization of superparamagnetic dynamics in magnetic topological insulators”, *Science Advances* **1**, e1500740, pp. 1-6 (2015).
117. Y. Anahory, L. Embon, C. J. Li, S. Banerjee, A. Meltzer, H. R. Naren, A. Yakovenko, J. Cuppens, Y. Myasoedov, M. L. Rappaport, M. E. Huber, K. Michaeli, T. Venkatesan, Ariando, and E. Zeldov, “Emergent nanoscale superparamagnetism at oxide interfaces”, *Nature Commun.* **7**, 12566 (2016).
118. A. Y. Meltzer, A. Uri and E. Zeldov, “Multi-terminal multi-junction dc SQUID for nanoscale magnetometry”, *Supercond. Sci. Technol.* **29**, 114001, pp. 1-10 (2016).
119. A. Uri, A. Y. Meltzer, Y. Anahory, L. Embon, E. O. Lachman, D. Halbertal, Naren HR, Y. Myasoedov, M. E. Huber, A. F. Young, and E. Zeldov, “Electrically Tunable Multiterminal SQUID-on-Tip”, *Nano Lett.* **16**, pp. 6910-6915 (2016).
120. D. Halbertal, J. Cuppens, M. Ben Shalom, L. Embon, N. Shadmi, Y. Anahory, H. R. Naren, J. Sarkar, A. Uri, Y. Ronen, Y. Myasoedov, L. S. Levitov, E. Joselevich, A. K. Geim, and E. Zeldov, “Nanoscale thermal imaging of dissipation in quantum systems”, *Nature* **539**, pp. 407-410 (2016).
121. J. H. Atkinson, A. D. Fournet, L. Bhaskaran, Y. Myasoedov, E. Zeldov, E. del Barco, S. Hill, G. Christou, and J. R. Friedman, “Effects of uniaxial pressure on the quantum tunneling of magnetization in a high-symmetry Mn_{12} single-molecule magnet”, *Phys. Rev. B* **95**, 184403 (2017).
122. L. Embon, Y. Anahory, Ž. L. Jelić, E. O. Lachman, Y. Myasoedov, M. E. Huber, G. P. Mikitik, A. V. Silhanek, M. V. Milošević, A. Gurevich, and E. Zeldov, “Imaging of super-fast dynamics and flow instabilities of superconducting vortices”, *Nature Commun.* **8**, 85 (2017).
123. A. Y. Meltzer, E. Levin, and E. Zeldov, “Direct reconstruction of two-dimensional currents in thin films from magnetic field measurements”, *Phys. Rev. Applied* **8**, 064030 (2017).
124. E. O. Lachman, M. Mogi, J. Sarkar, A. Uri, K. Bagani, Y. Anahory, Y. Myasoedov, M. E. Huber, A. Tsukazaki, M. Kawasaki, Y. Tokura, and E. Zeldov, “Observation of superparamagnetism in coexistence with quantum anomalous Hall $C=\pm 1$ and $C=0$ Chern states”, *npj Quantum Materials* **2**, 70 (2017).
125. D. Halbertal, M. Ben Shalom, A. Uri, K. Bagani, A. Y. Meltzer, I. Marcus, Y. Myasoedov, J. Birkbeck, L. S. Levitov, A. K. Geim, and E. Zeldov, “Imaging resonant dissipation from individual atomic defects in graphene”, *Science* **358**, pp. 1303-1306 (2017).
126. J. F. Kong, L. Levitov, D. Halbertal, and E. Zeldov, “Resonant electron-lattice cooling in graphene”, *Phys. Rev. B* **97**, 245416 (2018).

127. K. Bagani, J. Sarkar, A. Uri, M. L. Rappaport, M. E. Huber, E. Zeldov, and Y. Myasoedov, “Sputtered $\text{Mo}_{66}\text{Re}_{34}$ SQUID-on-tip for high-field magnetic and thermal nanoimaging”, *Phys. Rev. Applied* **12**, 044062 (2019).
128. A. Marguerite, J. Birkbeck, A. Aharon-Steinberg, D. Halbertal, K. Bagani, I. Marcus, Y. Myasoedov, A. K. Geim, D. J. Perello, and E. Zeldov, “Imaging work and dissipation in the quantum Hall state in graphene”, *Nature* **575**, pp. 628-633 (2019).
129. Y. Anahory, H. R. Naren, E. O. Lachman, S. Buhbut Sinai, A. Uri, L. Embon, E. Yaakobi, Y. Myasoedov, M. E. Huber, R. Klajn and E. Zeldov, “SQUID-on-tip with single-electron spin sensitivity for high-field and ultra-low temperature nanomagnetic imaging”, *Nanoscale* **12**, 3174-3182 (2020).
130. A. Uri, Y. Kim, K. Bagani, C. K. Lewandowski, S. Grover, N. Auerbach, E. O. Lachman, Y. Myasoedov, T. Taniguchi, K. Watanabe, J. Smet, and E. Zeldov, “Nanoscale imaging of equilibrium quantum Hall edge currents and of the magnetic monopole response in graphene”, *Nature Physics* **16**, pp. 164-170 (2020).
131. A. Uri, S. Grover, Y. Cao, J. A. Crosse, K. Bagani, D. Rodan-Legrain, Y. Myasoedov, K. Watanabe, T. Taniguchi, P. Moon, M. Koshino, P. Jarillo-Herrero, and E. Zeldov, “Mapping the twist-angle disorder and Landau levels in magic-angle graphene”, *Nature* **581**, pp. 47–52 (2020).
132. A. Aharon-Steinberg, A. Marguerite, D. J. Perello, K. Bagani, T. Holder, Y. Myasoedov, L. S. Levitov, A. K. Geim, and E. Zeldov, “Long-range nontopological edge currents in charge-neutral graphene”, *Nature* **593**, pp. 528–534 (2021).
133. S. Grover, M. Bocarsly, A. Uri, P. Stepanov, G. Di Battista, I. Roy, J. Xiao, A. Y. Meltzer, Y. Myasoedov, K. Pareek, K. Watanabe, T. Taniguchi, B. Yan, A. Stern, E. Berg, D. K. Efetov, and E. Zeldov, “Chern mosaic and Berry-curvature magnetism in magic-angle graphene”, *Nature Physics* **18**, pp. 885–892 (2022).
134. A. Aharon-Steinberg, T. Völkl, A. Kaplan, A. K. Pariari, I. Roy, T. Holder, Y. Wolf, A. Y. Meltzer, Y. Myasoedov, M. E. Huber, B. Yan, G. Falkovich, L. S. Levitov, M. Hückner, and E. Zeldov, “Direct observation of vortices in an electron fluid”, *Nature* **607**, pp. 74–80 (2022).

Publications in Conference Proceedings:

1. E. Zeldov and K. Weiser,
“Photoabsorption in Amorphous Chalcogenides at 10.6 μm Using Guided Wave Techniques”,
Thin Solid Films **89**, pp. 263-266 (1982).
2. E. Zeldov and K. Weiser,
“Photoabsorption in Amorphous Semiconductors Using a Wave Guided CO_2 Laser”, Physica B **117-118**, pp. 983-985 (1983).
3. E. Zeldov and K. Weiser,
“Study of Recombination of Photocarriers in a- As_2Se_3 and As_2Te_3 by Photoconductivity and Photoabsorption Measurements”,
J. non-Cryst. Solids **59-60**, pp. 965-968 (1983).
4. E. Zeldov, R. E. Viturro, and K. Weiser,
“Dependence of Photoconductivity and Photoabsorption on H Content in a-Si:H Films”,
J. Non-Cryst. Solids **77-78**, pp. 639-642 (1985).
5. D. Ritter, E. Zeldov, and K. Weiser,
“Diffusion Length Measurement in a-Si:H Using the Steady State Photocurrent Grating Technique”,
J. Non-Cryst. Solids **97-98**, pp. 571-574 (1987).
6. D. Ritter, E. Zeldov, and K. Weiser,
“Ambipolar Transport in Amorphous Semiconductors in the Relaxation Regime”,
J. Non-Cryst. Solids **97-98**, pp. 619-622 (1987).
7. E. Zeldov, N. M. Amer, and G. Koren,
“Enhanced Flux Creep and Nonequilibrium Optical Response in YBaCuO Epitaxial Films”,
Physica C **162-164**, pp. 1599-1600 (1989).
8. E. Zeldov,
“Flux Creep and Vortex Potential Well Structure in High-Temperature Superconductors”,
Physica A **168**, pp. 260-267 (1990).
9. B. Khaykovich, E. Zeldov, M. Konczykowski, D. Majer, A. I. Larkin, and J. R. Clem, “Vortex Dynamics in Ring-like Irradiated $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Crystal”,
Physica C **235-240**, pp. 2757-2758 (1994).
10. M. Konczykowski, D. Majer, E. Zeldov, N. Chikumoto, and V. M. Vinokur,
“Flux Profiles in Columnar-defect-containing BSCCO:2212 Crystals”,
Physica C **235-240**, pp. 2965-2966 (1994).
11. D. Majer, E. Zeldov, M. Konczykowski, V. B. Geshkenbein, A. I. Larkin, L. Burlachkov, V. M. Vinokur, and N. Chikumoto,
“Surface Currents and Bulk Pinning in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Physica C **235-240**, pp. 2765-2766 (1994).
12. E. Zeldov, A. I. Larkin, M. Konczykowski, B. Khaykovich, D. Majer, V. B. Geshkenbein, and V. M. Vinokur,
“Geometrical Barriers in Type-II Superconductors”,
Physica C **235-240**, pp. 2761-2762 (1994).

13. S. Li, M. Darwin, J. Deak, M. McElfresh, and E. Zeldov,
“Anomalous Magnetic Field Dependence of the Critical Current in Polycrystalline $\text{YBa}_2\text{Cu}_3\text{O}_7$ ”,
Physica C **235-240**, pp. 3091-3092 (1994).
14. V. Larkin, Y. Yeshurun, and E. Zeldov,
“Penetration Length, Bulk Critical Field, and Geometrical Barrier in $\text{Tl}_2\text{Ba}_2\text{CaCu}_2\text{O}_8$ Single Crystals”,
Physica C **235-240**, pp. 1805-1806 (1994).
15. B. Khaykovich, T. W. Li, M. Konczykowski, D. Majer, E. Zeldov, and P. H. Kes,
“First- and Second-Order Vortex-Lattice Phase Transitions in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Proceedings of 10th Anniversary HTS Workshop, eds. B. Batlogg et al., World Scientific (Singapore, 1996), pp. 399-402.
16. N. Morozov, E. Zeldov, D. Majer, and B. Khaykovich,
“Local ac Magnetic Response in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Single Crystals”,
Czech. J. Phys. **46** - Suppl. S3, pp. 1543-1544 (1996).
17. D. Majer, B. Khaykovich, T. W. Li, M. Konczykowski, E. Zeldov, and P. H. Kes,
“The Effect of Anisotropy on the Phase Diagram of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Czech. J. Phys. **46** - Suppl. S3, pp. 1563-1564 (1996).
18. D. T. Fuchs, E. Zeldov, D. Majer, R. A. Doyle, T. Tamegai, S. Ooi, and M. Konczykowski,
“Resistivity Onset at the First-Order Vortex-Lattice Phase Transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Czech. J. Phys. **46** - Suppl. S3, pp. 1583-1584 (1996).
19. B. Khaykovich, E. Zeldov, M. Konczykowski, R. A. Doyle, D. Majer, P. H. Kes, and T. W. Li,
“Phase Diagram of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ in the Mixed State: Effects of Anisotropy and Disorder”,
Czech. J. Phys. **46** - Suppl. S6, pp. 3218-3224 (1996).
20. D. Majer, B. Khaykovich, E. Zeldov, T. W. Li, P. H. Kes, and M. Konczykowski,
“The Effect of Anisotropy on the Phase Transitions in BSCCO”,
Proceedings of the 8th International Workshop on Critical Currents in Superconductors, Kitakyushu, Japan, World Scientific (Singapore, 1996), pp. 23-28.
21. Y. Abulafia, A. Shaulov, Y. Wolfus, R. Prozorov, L. Burlachkov, D. Majer, E. Zeldov, V. M. Vinokur, and Y. Yeshurun,
“Hall-Array Measurements of Flux Creep Parameters in YBCO Crystals”,
J. Low Temp. Phys. **107**, pp. 455-465 (1997).
22. S. Berry, M. Konczykowski, P. H. Kes, and E. Zeldov,
“Local Magnetic Relaxation Close to the Second Peak in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Single Crystals”,
Physica C **282-287**, pp. 2259-2260 (1997).
23. M. Konczykowski, E. Zeldov, D. Majer, and S. Buffard,
“Local Magnetic Measurement of Strong Pinning by Columnar Defects”,
Physica C **282-287**, pp. 2189-2190 (1997).
24. B. Schmidt, M. Konczykowski, N. Morozov, and E. Zeldov,
“Angular Dependence of the First-Order Vortex-Lattice Phase Transition in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Physica C **282-287**, pp. 2045-2046 (1997).

25. D. T. Fuchs, R. A. Doyle, D. Majer, E. Zeldov, W. S. Seow, T. Tamegai, S. Ooi, R. Drost, M. Konczykowski, and P. H. Kes,
“Sublimation and Hysteretic Transition of the Vortex-Lattice in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Physica C **282-287**, pp. 2023-2024 (1997).
26. B. Khaykovich, M. Konczykowski, R. A. Doyle, E. Zeldov, P. H. Kes, D. Majer, and T. W. Li,
“Effects of Correlated Disorder on Vortex-Lattice Melting in BSCCO”,
Physica C **282-287**, pp. 2067-2068 (1997).
27. D. Giller, Y. Abulafia, R. Prozorov, Y. Wolfus, A. Shaulov, Y. Yeshurun, D. Majer, E. Zeldov, J. L. Peng, and R. L. Greene,
“Local Magnetic Relaxation in $\text{Nd}_{1.85}\text{Ce}_{0.15}\text{CuO}_4$ Crystals”,
Physica C **282-287**, pp. 2209-2210 (1997).
28. R. A. Doyle, B. Khaykovich, M. Konczykowski, E. Zeldov, N. Morozov, D. Majer, P. H. Kes, and V. Vinokur,
“Vortex Matter Phase Transitions in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Physica C **282-287**, pp. 323-326 (1997).
29. R. A. Doyle, S.F.W.R. Rycroft, C. D. Dewhurst, D. T. Fuchs, E. Zeldov, T. B. Doyle, T. Tamegai, S. Ooi, R. H. Drost, P. H. Kes, and D. T. Foord,
“Experimental Evaluation of the Role of Geometrical and Surface Barriers in BSCCO-2212 Crystals”,
in “Physics and Materials Science of Vortex States, Flux Pinning and Dynamics”, R Kossowsky et al. (eds.), pp. 239-264, Kluwer Academic Publishers, Netherlands (1999).
30. S.F.W.R. Rycroft, R. A. Doyle, D. T. Fuchs, E. Zeldov, R. J. Drost, P. H. Kes, T. Tamegai, S. Ooi, A. M. Campbell, W. Y. Liang and D. T. Foord,
“Bulk Transport Properties of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ Single Crystals in the Corbino Disk Configuration”,
Proceedings of Ninth International Workshop on Critical Currents, IWCC9-99, July 1999, University of Wisconsin-Madison.
31. C. D. Dewhurst, R. A. Doyle, E. Zeldov, and D. McK. Paul,
“Flux Pinning in $(\text{Re})\text{Ni}_2\text{B}_2\text{C}$ Superconductors”,
in “Physics and Materials Science of Vortex States, Flux Pinning and Dynamics”, R Kossowsky et al. (eds.), pp. 265-280, Kluwer Academic Publishers, Netherlands (1999).
32. S. S. James, C. D. Dewhurst, R. A. Doyle, D. McK. Paul, Y. Paltiel, E. Zeldov, and A. M. Campbell,
“Flux Pinning, Surface and Geometrical Barriers in $\text{YNi}_2\text{B}_2\text{C}$ ”,
Physica C **332**, pp. 173-177 (2000).
33. F. Pardo, C. Bolle, V. Aksyuk, E. Zeldov, P. Gammel, D. J. Bishop and F. de la Cruz
“Dynamic Studies of Vortices in NbSe_2 , from Single Flux Lines to Lattices”,
Physica C **332**, pp. 160-165 (2000).
34. B. Khaykovich, D. T. Fuchs, K. Teitelbaum, Y. Myasoedov, E. Zeldov, T. Tamegai, S. Ooi, M. Konczykowski, R. A. Doyle, and S.F.W.R. Rycroft,
“Current-Induced Decoupling of Vortices in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Physica B **284-288**, pp. 685-686 (2000).

35. M. Konczykowski, S. Colson, C. J. van der Beek, M. V. Indenbom, P. H. Kes, and E. Zeldov, "Magnetic Relaxation in the Vicinity of Second Magnetization Peak in BSCCO Crystals", *Physica C* **332**, pp. 219-224 (2000).
36. D. Shaltiel, M. Golosovsky, M. Bezalel, E. Zeldov, B. Revaz, E. Walker, T. Tamegai, and S. Ooi, "Nonlinear Microwave Response to Magnetic Modulation in BSCCO", *Physica B* **284-288**, pp. 937-938 (2000).
37. M. Konczykowski, C. J. van der Beek, S. Colson, M. V. Indenbom, P. H. Kes, Y. Paltiel, and E. Zeldov, "Magnetization Decay due to Vortex Phase Boundary Motion in BSCCO", *Physica C* **341-348**, pp. 1317-1318 (2000).
38. M. Konczykowski, C. J. van der Beek, M. V. Indenbom, and E. Zeldov, "Melting of Regular and Decoupled Vortex Lattices in BSCCO Crystals", *Physica C* **341-348**, pp. 1213-1214 (2000).
39. B. Khaykovich, Y. N. Myasoedov, K. Teitelbaum, E. Zeldov, D. T. Fuchs, T. Tamegai, S. Ooi, M. Konczykowski, and S.F.W.R. Rycroft, "Current-Enhanced Anisotropy of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ in the Mixed State", *Physica C* **341-348**, pp. 985-986 (2000).
40. Y. Paltiel, E. Zeldov, Y. N. Myasoedov, S. Bhattacharya, M. J. Higgins, E. Y. Andrei, Z. L. Xiao, H. Shtrikman, P. L. Gammel, and D. J. Bishop, "Local Studies of Vortex Instabilities and Memory Effects in NbSe_2 ", *Physica C* **341-348**, pp. 1221-1222 (2000).
41. C. D. Dewhurst, S.S. James, N. Saha, R. Surdeanu, Y. Paltiel, E. Zeldov and D. McK. Paul, "Vortex Pinning and Dynamics in Magnetic and Non-Magnetic $(\text{RE})\text{Ni}_2\text{B}_2\text{C}$ Superconductors", in "Rare Earth Transition Metal Borocarbides (Nitrides): Superconducting, Magnetic and Normal State Properties", K.H. Mueller and V. Narozhnyi (eds.), Kluwer Academic Publishers (2001).
42. K. M. Mertes, Y. Zhong, M. P. Sarachik, Y. Paltiel, H. Shtrikman, E. Zeldov, E. Rumberger, and D. N. Hendrickson, "Transition Between Thermally Assisted Relaxation and Quantum Tunneling in a Molecular Magnet", *J. Appl. Phys.* **89**, pp. 6802-6804 (2001).
43. E. Y. Andrei, Z. L. Xiao, W. Henderson, Y. Paltiel, E. Zeldov, M. Higgins, S. Bhattacharya, P. Shuk, and M. Greenblatt, "Order-Disorder Transitions in a Vortex Lattice", *Condensed Matter Theories Vol. 16*, pp. 241-252, Nova Science Publishers, NY (2001).
44. A. Soibel, S. S. Banerjee, Y. Myasoedov, M. L. Rappaport, E. Zeldov, S. Ooi, and T. Tamegai, "Investigating the Vortex Melting Phenomenon in BSCCO Crystals Using Magneto-Optical Imaging Technique", *Pramana – J. Phys.* **58**, pp. 893-898 (2002).
45. N. Avraham, B. Khaykovich, Y. Myasoedov, M. Rappaport, H. Shtrikman, D. E. Feldman, E. Zeldov, T. Tamegai, P. H. Kes, M. Li, M. Konczykowski, and K. van der Beek, "First-Order Disorder-Driven Transition and Inverse Melting of the Vortex Lattice", *Physica C* **369**, pp. 36-44 (2002).

46. K. M. Mertes, Yoko Suzuki, M. P. Sarachik, Y. Paltiel, H. Shtrikman, E. Zeldov, E. M. Rumberger, D. N. Hendrickson, and G. Christou,
“Ground state tunneling due to a distribution of tunnel splittings in Mn_{12} -acetate”,
J. Appl. Phys. **91**, pp. 7161-7163 (2002).
47. M. K. Krause, P. Esquinazi, M. Ziese, R. Höhne, A. Pan, A. Galkin, and E. Zeldov,
“Out-of-plane stray field at magnetization reversal in epitaxial magnetite thin films”,
J. Magn. Magn. Mater. **242**, pp. 1097-1099 (2002).
48. K. M. Mertes, Y. Suzuki, M. P. Sarachik, Y. Myasoedov, H. Shtrikman, E. Zeldov, E. M. Rumberger, D. N. Hendrickson, and G. Christou,
“More evidence for a distribution of tunnel splittings in Mn_{12} -acetate”,
J. Appl. Phys. **93**, pp. 7095-7097 (2003).
49. G. Jung, Y. Paltiel, E. Zeldov, Y. Myasoedov, M. L. Rappaport, M. Ocio, S. Bhattacharya, and M. J. Higgins,
“Noise in vortex matter”,
SPIE Proceedings, Michael B. Weissman, Nathan E. Israeloff, A. Shulim Kogan, Editors, Vol. 5112 “Noise as a Tool for Studying Materials”, pp. 222-235 (2003).
50. S. S. Banerjee, E. Zeldov, A. Soibel, Y. Myasoedov, M. Rappaport, M. Menghini, Y. Fasano, F. de la Cruz, C. J. van der Beek, M. Konczykowski, and T. Tamegai,
“Porous vortex matter”,
Physica C **408-410**, pp. 495-498 (2004).
51. M. Menghini, Y. Fasano, F. de la Cruz, S. S. Banerjee, Y. Myasoedov, E. Zeldov, C. J. van der Beek, M. Konczykowski, and T. Tamegai,
“Amorphous vortex phase in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ after the first order liquid-solid phase transition”,
J. Low Temp. Phys. **135**, 139-142 (2004).
52. M. Konczykowski, C. J. van der Beek, E. Zeldov, Ming Li, and P. H. Kes,
“Persistence of the intrinsic transition in the vortex matter of disordered BSCCO:2212 crystals”,
Physica C **408-410**, pp. 547-548 (2004).
53. K. M. Mertes, Yoko Suzuki, M. P. Sarachik, Y. Myasoedov, H. Shtrikman, E. Zeldov, E. M. Rumberger, D. N. Hendrickson, and G. Christou,
“Tunnel splitting distributions and dipolar shuffling in Mn_{12} -acetate”
J. Magn. Magn. Mater. **272 –276**, pp. e719 –e720 (2004).
54. Yoko Suzuki, K. M. Mertes, M. P. Sarachik, Y. Myasoedov, H. Shtrikman, E. Zeldov, E. M. Rumberger, D. N. Hendrickson, and G. Christou,
“Thermally assisted tunneling for a distribution of tunnel splittings in Mn_{12} -acetate”
J. Magn. Magn. Mater. **272 –276**, pp. e739-e740 (2004).
55. E. Altshuler, T. H. Johansen, Y. Paltiel, P. Jin, K. E. Bassler, O. Ramos, G. F. Reiter, E. Zeldov, C. W. Chu,
“Experiments in superconducting vortex avalanches”,
Physica C **408-410**, pp. 501-504 (2004).
56. Yoko Suzuki, M. P. Sarachik, N. Avraham, Y. Myasoedov, H. Shtrikman, E. Zeldov, E. M. Rumberger, D. N. Hendrickson, and G. Christou,
“The occurrence of avalanches in a single crystal of Mn_{12} -acetate”,
J. Appl. Phys. **97**, 10M517, pp. 1-3 (2005).

57. G. Jung, Y. Paltiel, E. Zeldov, Y. Myasoedov, M. L. Rappaport, M. J. Higgins, and S. Bhattacharya,
“Edge contamination effects in the dynamics of vortex matter in superconductors: memory effects and excess flux-flow noise”,
Lect. Notes Phys. **688**, pp. 109 - 128 (2006).
58. S. S. Banerjee, S. Goldberg, Y. Myasoedov, M. Rappaport, E. Zeldov, A. Soibel, F. de la Cruz, C. J. van der Beek, M. Konczykowski, T. Tamegai, and V. Vinokur,
“Melting of heterogeneous vortex matter: the vortex ‘nanoliquid’”,
Pramana – J. Phys. **66**, pp. 43-54 (2006).
59. M. Bal, Jonathan R. Friedman, E. M. Rumberger, S. Shah, D. N. Hendrickson, N. Avraham, Y. Myasoedov, H. Shtrikman, and E. Zeldov,
“Photon-induced magnetization changes in single-molecule magnets”,
J. Appl. Phys. **99**, 08D103, pp. 1-6 (2006).
60. B. Kalisky, A. Shaulov, Y. Myasoedov, E. Zeldov, T. Tamegai, and Y. Yeshurun,
“Distributed injection of transient vortex states in a prism-shaped $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ crystal”,
Physica C **460-462**, pp. 1210-1212 (2007).
61. E. H. Brandt, G. P. Mikitik, and E. Zeldov,
“Superconducting strip with ac current”,
Physica C **460-462**, pp. 1251-1252 (2007).
62. E. H. Brandt, G. P. Mikitik, and E. Zeldov,
“Deforming and moving a vortex by the tip of a magnetic force microscope”,
Physica C **470**, pp. 782-785 (2010).
63. E. H. Brandt, G. P. Mikitik, and E. Zeldov,
“Nanomechanics of an individual vortex in a type-II superconductor”,
Physica C **470**, pp. S894–S895 (2010).
64. I. Gutman, S. Goldberg, Y. Segev, Y. Myasoedov, E. Zeldov, and T. Tamegai,
“Experimental evidence for vortex equilibration by an in-plane dc field in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ ”,
Physica C **470**, pp. S239–S240 (2010).
65. A. Finkler, D. Vasyukov, Y. Segev, L. Neeman, Y. Anahory, Y. Myasoedov, M. L. Rappaport, M. E. Huber, J. Martin, A. Yacoby, and E. Zeldov,
“Nano-sized SQUID-on-tip for scanning probe microscopy”,
J. Phys.: Conf. Ser. **400**, 052004, pp. 1-6 (2012).

Patents:

1. D. Ritter, E. Zeldov, and K. Weiser, “Optical Apparatus and Method for Photocarrier Diffusion Length Measurement”, US patent **4,891,582**, January 2, 1990.
2. R. J. Gambino, R. R. Ruf, and E. Zeldov, “Magnetic STM with a Nonmagnetic Tip”, US patent **5,331,589**, July 19, 1994.
3. E. Zeldov and N. M. Amer, “Nonbolometric Superconductive Photoresponsive Cell and Method”, US patent **5,682,042**, October 28, 1997.
4. D. Majer and E. Zeldov, “Gated Array of Hall Sensors”, patent application 124466, May 1998.
5. Y. Yeshurun, Y. Abulafia, Y. Wolfus, A. Shaulov, E. Zeldov, D. Majer, and H. Shtrikman, “Probe device for measuring a magnetic field vector”, US patent **6,366,085**, April 2, 2002.
6. A. Finkler, J. Martin, Y. Myasoedov, Y. Segev, A. Yacoby, and E. Zeldov, “Magnetic Field Sensor Device for Direct Magnetic Field Imaging and Method of Fabrication Thereof”, US patent **8,723,514**, May 13, 2014.
7. J. Reiner, L. Embon, Y. Anahory, Y. Myasoedov, and E. Zeldov, “Sensor Device For Direct Magnetic Field Imaging”, US Patent **20,160,103,192**, April 14, 2016.
8. A. Uri, Y. Anahory, N. Hoovinakatte, Y. Myasoedov, L. Embon, and E. Zeldov, “Electronically-Tunable Multi-Junction Multi-Terminal SQUID-On-Tip”, WIPO PCT WO2016170539A1, Oct. 27, 2016.
9. D. Halbertal, J. Cuppens, L. Embon, Y. Anahory, Y. Myasoedov, and E. Zeldov, “Superconducting Scanning Sensor For Nanometer Scale Temperature Imaging”, European Patent EP3268749B1, Sep. 8, 2021