MAX-PLANCK-INSTITUT FÜR PHYSIK KOMPLEXER SYSTEME

International Workshop and Seminar on

Vortices, solitons, and frustration phenomena in 2D magnetic and optical systems

Workshop • January 10 – 14, 2000
Seminar • January 3 – 21, 2000

Scientific Coordinators:

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WORKSHOP PROGRAM

Sunday, January 9

	Arrival
19:00	Welcome reception (Cafeteria at the Max Planck Institute)

Each talk is 45 minutes plus 10 minutes for discussions!

Monday, January 10

08:45 – 09:00	Opening
09:00 – 10:00	**Marat S. Soskin** (Kiev) *Optical vortices. Fundamentals and applications*
10:00 – 11:00	**Yuri Kivshar** (Canberra) *Dark solitons and vortices in nonlinear optics:* *Dynamics and instabilities*
11:00 – 11:30	Coffee break
11:30 – 12:30	**Carl Weiss** (Braunschweig) *Vortices and solitons in active optical resonators*
12:30 – 14:30	Lunch
14:30 – 15:30	**Alexander B. Borisov** (Ekaterinburg) *Vortices and topological defects in the 2D sine-Gordon system*
15:30 – 16:30	**Igor Barashenkov** (Cape Town) *Exact vortex solutions of the complex sine-Gordon theory on the plane*
16:30 – 17:00	Coffee break
17:00 – 18:00	**Angel Sánchez** (Madrid) *Finite temperature landscape of the random sine-Gordon model*
18:00 – 19:00	**Alexei Bogdanov** (Donetsk) *Magnetic vortices and incommensurate structures in noncentrosymmetric magnetic system*
19:00	Supper

Tuesday, January 11

09:00 – 10:00	**Franz G. Mertens** (Bayreuth) *Generalized travelling wave ansatz for solitons and vortices*
10:00 – 11:00	**Alexander S. Kovalev** (Kharkov) *Magnetic vortex dynamics due to its interaction with spin wave modes*
11:00 – 11:30	Coffee break
11:30 – 12:30	**Stavros Komineas** (Bayreuth) *Scattering of magnetic solitons in two dimensions*
12:30 – 14:30	Lunch
14:30 – 15:30	**Alan R. Bishop** (Los Alamos) *Examples of topological structures and mesoscopic organization in 2D and in 3D Josephson junction arrays and complex Ginzburg-Landau equations*
15:30 – 16:30	**Igor Mokhun** (Chernivtsy) *Singularities in vector fields*
16:30 – 17:00	Coffee break
17:00 – 18:00	**Alexander N. Omelyanchouk** (Kharkov) *2D vortex states and phase slip centers in mesoscopic four-terminal junctions*
18:00 – 19:00	**Oleg P. Pishnyak** (Kiev) *Phase singularities in a Gaussian beam passed through a dye-doped nematic liquid crystal cell*
19:00	Supper

Wednesday, January 12

09:00 – 10:00	**Arnold M. Kosevich** (Kharkov) *Nonlinear equations allowing existence of embedded solitons*
10:00 – 11:00	**Borys A. Ivanov** (Kiev) *Two-dimensional solitons and thermodynamics of layered magnets*
11:00 – 11:30	Coffee break
11:30 – 12:30	**Igor L. Bogolyubsky** (Moscow) *Soliton vortices in the U(1) gauged easy-axis Heisenberg sigma model*
12:30 – 14:30	Lunch
14:30 – 15:30	**John M. Tranquada** (Upton) *Stripe phase in high-temperature superconductors*
15:30 – 16:30	**Hartmut Benner** (Darmstadt) *Spinwave envelope solitons in magnetic films (Theory and experiments; bright/dark solitons; the phase problems; applications)*
16:30 – 17:00	Coffee break
17:00 – 18:00	**Abdelwahab Ghazali** (Paris) *Magnetic structurs in ultrathin films and nanodots: Monte Carlo simulations*
18:00 – 19:00	**Craig Zaspel** (Bozeman) *Electron paramagnetic resonance detection of magnetic solitons*
19:00	Supper

Thursday, January 13

09:00 – 10:00	**Yuri Gaididei** (Kiev) *Internal dynamics of breathers and vortices*
10:00 – 11:00	**Avadh B. Saxena** (Los Alamos) *Deformation of Heisenberg vortices due to magnetoelastic coupling*
10:00 – 11:30	Coffee break
11:30 – 12:20	**Nigel Cooper** (Birmingham) *Propagating solitarity waves in ferromagnets and quantum hall ferromagnets*
12:30 – 14:30	Lunch
14:30 – 15:30	**Nikos Papanicolaou** (Heraklion) *Bulk and surface spin-flop transitions*
15:30 – 16:00	Coffee break
16:00 – 19:00	**Poster session**
20:00	Workshop Dinner in the restaurant 'Villa Marie'

Friday, January 14

09:00 – 10:00	**Johannes Richter** (Magdeburg) *Frustration and quantum fluctuations in low-dimensional spin systems*
10:00 – 11:00	**Hartmut Zabel** (Bochum) *Spin frustration effects in thin Cr-films*
11:00 – 11:30	Coffee break
11:30 – 12:30	**Mikhail Bogdan** (Kharkov) *Structural properties of magnetic frustrations as 2D solitons localized at defects in layered magnets*
12:30 – 14:30	Lunch
14:30 – 15:30	**Yuriy A. Kosevich** (Moscow) *Giant double-resonant optical rotation and total polarization conversion in gyrotropic and anisotropic 2D systems*
15:30 – 16:00	Coffee break
16:00 – 17:00	**Nail Akhmediev** (Canberra) *Comparative study of solitons in dissipative, Hamiltonian and integrable systems*
17:00 – 18:00	**Peter L. Christiansen** (Lyngby) *Curvature-induced symmetry breaking in nonlinear Schrödinger model*
18:00	Supper

Saturday, January 15

A full-day excursion to Meissen