

RMHD 2024

Monday, 24 June 2024

Session: 1 (09:40 - 11:00)

time	[id] title	presenter
09:40	[3] Ivanov A.S. Effective length of surfactant molecules on the surface of magnetic nanoparticles	
10:00	[4] Fedorovich S. The plasma flow from the nozzle of the PLM-M magnetoplasma installation	
10:20	[5] Kabardin I. The doppler anemometry method development for diagnosing two-phase flows in a liquid metal medium	
10:40	[35] Chermakov M. Sodium equipment of Beloyarsk Nuclear Power Station	

Session: 2 (12:00 - 13:20)

time	[id] title	presenter
12:00	[7] Raikher Yu. Magnetoelectric effect from magnetically hard particles embedded in a piezoelectric polymer matrix	
12:20	[8] Makarova L. Magnetic elastomer based composites for magnetoelectric application	
12:40	[9] Kolesnikova V. Soft multimagnetic microwires for biomedical and sensing applications: experiment and simulations	
13:00	[10] Zubarev A. To the theory of magnetic hyperthermia in soft ferrogels	

Session: 3 (14:20 - 16:00)

time	[id] title	presenter
14:20	[13] Smolianov I. Simulation of MHD channel flow at finite magnetic Reynolds numbers	
14:40	[11] Okatev R. Hartmann flow of a fluid with spatially heterogeneous properties	
15:00	[14] Ozernykh V. Interaction of vortex flow in an inductor with counter-rotating magnetic fields	
15:20	[12] Shmakov E. Reduced-order model techniques in electromagnetic field calculation for flat linear induction pumps	
15:40	[15] Banschikov S. Spin-up of the flow induced in thin layer by localized alternating magnetic field	

Session: 4 (14:20 - 16:00)

time	[id] title	presenter
14:20	[16] Zverev V. Analysis of relaxation times based on dynamic hysteresis curve for ferrofluids and ferrocomposites	

14:40	[17] Balasoiu M. Small-angle scattering characterization of ferrofluids with anisometric nanoparticles	
15:00	[18] Subbotin I. Relaxation time of magnetization process in ferrofluids	
15:20	[19] Nesterov S. Analysis of processes in a multi-tooth seal with consideration of magnetic fluid deformation in the gap	
15:40	[20] Nesterov S. Calculation of the magnetic circuit of magnetic fluid sealing using dynamically generated electrical circuits by solving the problem of loop currents	

Session (16:20 - 18:00)

time	[id] title	presenter
16:20	[26] Vivchar V. Influence of magnetic field on the spectra of optical effects in magnetic fluids with different aggregative stability	
16:40	[27] Beketova E. Peculiarities of temperature dependence of processes deformation of magnetically sensitive emulsion microdroplets in constant and alternating magnetic fields	
17:00	[28] Mkrtychyan V. The influence of a magnetic field on the photo-induced thermocapillary deformation of the surface of a magnetic liquid	
17:20	[29] Grokhotova E. Small multi-core particle: Influence of magnetic anisotropy on orientation texturing and magnetic properties	
17:40	[30] Khokhryakova C. Influence of magnetic field on the surface tension of ferrofluid	

Session: 5 (16:20 - 18:00)

time	[id] title	presenter
16:20	[21] Eltishchev V. Amplitude-frequency characteristics of a circular surface wave	
16:40	[22] Teplyakov I. Study of the pinch effect in a liquid metal system with hemispherical electrodes	
17:00	[23] Malyshev K. Stokes electrovortex flows in a cylinder of finite volume	
17:20	[24] Stepanova A. Electro vortex flow in a cylinder with a small top electrode	
17:40	[25] Poluyanov A. Experimental study of the effect of the pinch force on the flow of a conductive liquid	

Tuesday, 25 June 2024

Session: 7 (09:40 - 11:00)

time	[id] title	presenter
09:40	[55] Ivanov A.O. The effect of static magnetic field on the orientational ordering of superparamagnetic nanoparticle easy magnetization axes	
10:00	[57] Kochurin E. Direct numerical simulation of magnetohydrodynamic wave turbulence on the free surface of a ferrofluid	
10:20	[59] Chirikov D. Slow remagnetization of ferrofluid. Computer experiment	
10:40	[61] Poperechny I. The longitudinal magnetic response of polydisperse ensembles of superparamagnetic nanoparticles suspended in a fluid	

Session: 8 (12:00 - 13:20)

time	[id] title	presenter
12:00	[91] Yushkov E. Threshold regime of small-scale magnetic energy generation in the MHD shell approach	
12:20	[92] Yavorsky N. A new class of exact solutions to the equations of magnetic hydrodynamics	
12:40	[93] Zheligovsky V. Linear MHD stability with respect to Bloch modes	
13:00	[94] Kopyev A. Suppression of small-scale dynamo in time-irreversible isotropic turbulence	

Session: 10 (14:20 - 16:00)

time	[id] title	presenter
14:20	[100] Lebedev A. Magnetic fluid stabilized by a double layer of surfactant in water: influence of a stabilizer on rheological and magnetic properties	
14:40	[101] Rusanov M. Dynamic susceptibility of moving magnetic particles: approximation formulae and computer simulation	
15:00	[102] Koskov M. Friction force in a parallel moving coaxial gap filled with ferrofluid	
15:20	[103] Shel'deshova E. Influence of a magnetic field on the viscosity of a magnetic fluid in a capillary viscometer	
15:40	[104] Radushnov D. Magnetic properties of polydispersed magnetically active composite materials: comparison of experiment with theory and computer simulation	

Session: 9 (14:20 - 16:00)

time	[id] title	presenter
14:20	[95] Ryzhkov S. Approximate calculation of convective heat transfer and drag coefficients for geometric models of aircraft	

14:40	[96] Korovin V. A model problem for calculating electromagnetic field in an induction plasma torch channel	
15:00	[97] Khasaeva T. Role of magnetorotational instability in the magnetic field occurrence on the periphery of the galactic disc	
15:20	[98] Akhmet'ev P. The density of the asymptotic ergodic invariant of magnetic lines has a Kolmogorov spectrum indicator	
15:40	[99] Ogorodnikov L. Alpha-effect in the three-dimensional coherent geostrophic vortex of conducting rotating liquid	

Session: 11 (16:20 - 18:00)

time	[id] title	presenter
16:20	[105] Kalashnikov I. Laboratory and numerical modelling of the shock wave structure of jets of young stars	
16:40	[106] Fursov A. Structure of pulsar wind nebulae: predictive ability of MHD models	
17:00	[107] Ryzhkov S. Calculations on the interaction of intense radiation with matter in a magnetic field	
17:20	[69] Frick P. Spectral characteristics of Rikitake-like dynamo models	
17:40	[109] Okatev R. Dynamical chaos in low-order dynamo models	

Session: 12 (16:20 - 18:00)

time	[id] title	presenter
16:20	[110] Korovin V. Anisotropy of wave propagation along the free surface of a magnetic fluid induced by a horizontal magnetic field	
16:40	[111] Sokolov E. Dynamics of the shape of magnetic fluid droplets under the influence of a magnetic field: experiment and lattice boltzmann simulation	
17:00	[112] Dobroserdova A. The study of magnetoactive core-shell nanogels by computer simulations	

Wednesday, 26 June 2024

Session: 13 (09:40 - 11:00)

time	[id] title	presenter
09:40	[31] Shestakov A. Non-conservative cascades in HD and MHD turbulence	
10:00	[32] Lyu Z. Experimental study of liquid metal sheard flow under the influence of magnetic field	
10:20	[33] Mamykin A. Study of developed turbulence in liquid metal flows in the electromagnetic stirrer	
10:40	[34] Listratov Ya. The upward flow of liquid metal in a heated pipe affected by transverse magnetic field	

Session: 14 (12:00 - 13:20)

time	[id] title	presenter
12:00	[36] Zikanov O. Magnetoconvection with walls of finite electric conductivity	
12:20	[37] Stepanov R. Experimental and numerical modeling of turbulent convection with open boundary conditions in liquid medium	
12:40	[38] Podvigina O. Generation of magnetic field by convective rolls	
13:00	[39] Yang J. Effects of magnetic fields and spatial confinement on the liquid metal thermal convection	

Session: 15 (14:20 - 16:00)

time	[id] title	presenter
14:20	[40] Mironov I. Investigation of the influence of the magnetic field on the dynamics of the jet flow of liquid metal	
14:40	[41] Sumin R. Investigation of the applicability of a magnetic flow meter for a heavy liquid metal coolant	
15:00	[42] Belavina E. Thermogravitational convection of the flow molten salt simulator under a magnetic field for different working section configurations	
15:20	[43] Shenyagin E. Experimental investigation of a liquid metal vertical natural convection in a cell with heated element affected by transverse magnetic field	
15:40	[44] Rakhimov R. Features of heat transfer and hydrodynamics of promising coolants by the example of molten salts simulators under conditions relevant for new generation reactor installations	

Session: 16 (14:20 - 16:00)

time	[id] title	presenter
14:20	[45] Stepanov G. Soft magnetic substance – features of electrical conductivity	
14:40	[46] Musikhin A. Model of uniaxial stresses in magnetic elastomers	
15:00	[47] Ryzhkov A. Magnetic polymersome in an inhomogeneous magnetic field studied through computer simulation	

15:20	[48] Zubarev A. Magnetorheological properties and overshoots in magnetic gels with non- spherical particles	
15:40	[49] Elfimova E. Pair correlations of the easy magnetisation axes of superparamagnetic nanoparticles in a ferrofluid/ferrocomposite	

Session: 17 (16:20 - 18:00)

time	[id] title	presenter
16:20	[50] Kolesnichenko I. Purification the liquid metal with the use of electromagnetic force	
16:40	[87] Kukharev A. One method of conduction stirring in the tundish for continuous casting	
17:00	[52] Vinter E. MHD processes during 25–30 mm ingot electromagnetic casting	
17:20	[53] Losev G. Measuring the effective conductivity of liquid metals with solid impurities	
17:40	[54] Ozernykh V. Features of local distortion of streamlines near an ensemble of particles of different shape and orientation	

Session: 18 (16:20 - 18:00)

time	[id] title	presenter
16:20	[56] Straube A. Depinning of a kink in a chain of magnetic particles trapped in a periodic energy landscape	
16:40	[58] Kopytova E. Phase transitions in liquid-crystal composites of goethite nanorods: continuum and molecular-statistical theories	
17:00	[60] Ignatov A. Study of magnetostrain and magnetostriction contributions to magnetoelectric response of a polymer multiferroic film	
17:20	[62] Chemezova E. Magnetic response simulation of the fractal cluster containing superparamagnetic nanoparticles	

Thursday, 27 June 2024

Session: 19 (09:40 - 11:00)

time	[id] title	presenter
09:40	[65] Kotelnikova M. On new simple solutions of MHD equations for total solar magnetic energy	
10:00	[64] Tolmachev D. Predictive patterns for magnetic field reversals	
10:20	[66] Mindubaev M. Possible mechanisms for maintaining the earth's magnetic field in the early stages of its evolution	
10:40	[67] Mikhailov E. Magnetic field structures generated by accretion disc dynamo	

Session: 20 (12:00 - 13:20)

time	[id] title	presenter
12:00	[108] Tlatov A. Toroidal-U-Toroidal model of solar dynamo	
12:20	[63] Kleeorin N. Prediction of Solar activity using a mean-field dynamo model with account of magnetic helicity	
12:40	[70] Stepanov R. Synchronization effect in a nonlinear mean-field model of solar dynamo	
13:00	[68] Sokoloff D. Long term memory effects in small-scale dynamo and other instabilities in random media	

Session: 21 (14:20 - 16:00)

time	[id] title	presenter
14:20	[71] Berdyugin D. Effects of magnetic field on natural convection processes in salt melts	
14:40	[72] Luchinkin N. Investigation of magnetohydrodynamics and heat transfer in a liquid metal «tube-in-channel» heat exchange system in relation to a fusion reactor blanket module	
15:00	[73] Balabaev N. Experimental investigation of the wall's electrical conductivity influence on the formation of magneto-convective fluctuations in vertical channels	
15:20	[74] Khlybov O. Effect of travelling magnetic field on crystal growth with internal temperature control	
15:40	[75] Sukhanovskii A. Specifics of large-scale circulation reorientations in tanks of different geometry	

Session: 22 (14:20 - 16:00)

time	[id] title	presenter
14:20	[76] Khripchenko S. Experimental study of a two-channel traveling field pump	
14:40	[77] Nikulin I. Simulation of surface film rupture caused by AMF-driven metallic melt motion	

15:00	[78] Khripchenko S. Electrical resistance at the boundary between stainless steel and liquid lead, the effect of liquid lead on stainless steel when electric current flows through the boundary of their contact	
15:20	[79] Nikulin I. Analysis of possibilities and development of cooling systems for photovoltaic converters to improve the efficiency of current generation	
15:40	[80] Khripchenko S. Transformer type scroll pump	

Session: 23 (16:20 - 18:00)

time	[id] title	presenter
16:20	[81] Nekrasov O. On the stability of the oscillating electroosmotic flow in the microchannel	
16:40	[82] Kazantsev P. Convective instability of ferrofluid in the Hele-Shaw cell	
17:00	[84] Sadilov E. Kelvin-Helmholtz instability in a system of dielectric and electrically conducting fluids under the influence of ampere force	
17:20	[85] Konovalov V. Stability of the liquid-vapor interface under the combined influence of vertical vibrations and electric field	

Session: 24 (16:20 - 18:00)

time	[id] title	presenter
16:20	[86] Poluyanov A. The flow of a submerged jet of liquid metal in an alternating magnetic field	
16:40	[88] Bondarenko A. Mathematical simulation of inductive level sensor response to conductivity change	
17:00	[89] Khalilov R. Testing sodium MHD equipment	
17:20	[90] Mamykin A. Capabilities of matrix cylindrical induction machine for liquid metal stirring in the process of crystallization	