

Catania MHD – WORKSHOP: FINAL PROGRAM

Sunday 30th September

18:00 Registration at Museo Diocesano

19:00 Welcoming Reception at Museo Diocesano terrace

Monday 1st October

Experimental talks have 25+5 min

Theoretical talks have 15+5 min

08:30-9:15 Registration

09:15-09:30 Welcoming Address (*Rosner/Strazzulla/Bonanno*)

DYNAMO EXPERIMENTS SESSION (*Chairman: R. Rosner*)

09:30-10:00 *J.-F.Pinton: Dynamo generation in the VKS experiment*

10:00-10:30 *A.Gailitis: Current status of Riga Dynamo experiment*

10:30-11:00 *C.Forest: Recent Results from the Madison Dynamo Experiment*

11:00-11:30 Coffee break

11:30-12:00 *D.Lathrop: Laboratory Models of Astrophysical and Geophysical Turbulence*

12:00-12:30 *H-C.Nataf: Rotating spherical couette flow in axial dipolar magnetic fields: main results of the DTS experiment*

12:30-13:00 *S.Colgate: The Na- alpha-omega Dynamo Exp.: Low Turbulent Dynamos in MBH Accretion Disks & Stars*

Lunch

14:30-15:00 *P.Frick: Experimental studies of effective electroconductivity of turbulent liquid metal*

15:00-15:30 *P.Cardin: Spherical Couette flow in the presence of an axial magnetic dipole*

MRI SESSION (*Chairman: M. Mond*)

15:30-16:00 *E.P.Velikhov: MRI instability in laboratory experiments*

16:00-16:30 Coffee break

16:30-17:00 *F.Stefani: Results of the PROMISE experiment on helical MRI instability*

17:00-17:30 *H.Ji: Studies of Angular Momentum Transport in Taylor-Couette Flows*

17:30-17:50 *G.Rudiger: Magnetic instability in TC experiment with toroidal fields*

17:50-18:10 J.Szklarski: *The Ekman-Hartmann layer in MHD Taylor-Couette flow*

18:10-18:30 TBA / DISCUSSION

Tuesday 2nd October

MRI SESSION (continuation) (Chairman: M. Mond)

09:00-09:20 E.Knobloch: *Saturation of the Magnetorotational Instability*

09:20-09:40 G.Gerbeth: *Absolute vs convective-helical MRI in a TC flow*

09:40-10:00 J.Priede: *Pseudo magnetorotational instability in a TC flow between electrically connected cylinders*

10:00-10:20 T.Tatsuno: *Magnetic reconnection in the nonlinear evolution of two-dimensional MRI Instability*

10:20-10:40 F.Cattaneo: *Numerical simulation of MRI driven turbulence in a cylindrical annulus*

10:40-11:10 Coffee break

THEORY: DYNAMO THEORY (Chairman: I. Tuominen)

11:10-11:30 Y.Ponty: *Linear and nonlinear aspect of dynamo action at low magnetic Prandtl number*

11:30-11:50 A.Schekochihin: *Fluctuation Dynamo at Low Prandtl number*

11:50-12:10 A.Brandenburg: *Forced turbulence in spherical shell segments: dynamo and helicity ejection*

12:10-12:30 J.Léorat: *A finite element approach of nonlinear MHD problems in bounded geometries*

12:30-12:50 D.Callebaut: *Proposal for the generation of MF between rotating cylinders*

Lunch

14:30-15:00 J.Burguete: *Influence of the slow dynamics of asymmetrical von Kármán flows on the threshold of the kinematic dynamo action*

15:00-15:20 A.Busse: *Diffusion and Dispersion in MHD turbulence*

THEORY: PLANE COUETTE FLOW (Chairman: V. Urpin)

15:20-15:40 C.Egbers: *Non-rotational and rotational regimes of spherical gap flows and their influence on thermal convection in a set-up with central force field*

15:40-16:00 L.Kitchatinov: *Can turbulent plane-shear flows support large-scale dynamos?*

16:00-16:30 Coffee break

16:30-16:50 I.Rogachevskii: *Theory of generation of large-scale magnetic field in a sheared non-helical turbulence*

16:50-17:20 T.Yousef: *Shear induced dynamo*

17:20-17:40 P.Kapyla: *Vorticity dynamo and shear-current effect from turbulence simulations*

17:40-18:00 F.Rincon: *Nonlinear dynamo solutions in Keplerian plane Couette flow*

18:00-18:20 TBA/DISCUSSION

20:30 Social Dinner

Wednesday 3rd October

TAYLER INSTABILITY SESSION (Chairman: A. Lanza)

09:00-09:20 J.Braithwaite: *A differential-rotation-driven dynamo in stably stratified stars*

09:20-09:40 M.Gellert: *Nonlinear simulations of nonaxisymmetric pattern in Taylor-Couette flow with azimuthal magnetic fields*

09:40-10:00 A.Bonanno: *Stability of magnetic configurations containing the toroidal and axial fields*

10:00-10:20 S.Brun: *Magnetic instabilities and dynamo action in stellar radiation zone*

10:20-10:50 Coffee break

ASTROPHYSICAL APPLICATIONS (Chairman: A. Lanza)

10:50-11:10 D.Elstner: *Stability of magnetic rotating disks - nonlinear simulations*

11:10-11:30 K.Otmianowska-Mazur: *Discussion of the electromotive force terms in the model of Parker unstable galactic disks with cosmic rays and shear*

11:30-11:50 M.Hanasz: *Numerical simulations of cosmic-ray driven dynamo in galactic disks - a progress report*

11:50-12:10 I.Goldman: *A New Evaluation of the Effective Tidal Viscosity in Close Solar-Type Binaries*

12:10-12:30 D.Sokoloff: *Meridional Circulation and Dynamo Waves*

12:30-12:45 I.Oreshina: *An interpretation of rapid changes in the magnetic field associated with solar flares*

12:45-13:00 Closing remarks