

**Meeting
BTU Cottbus
December 01-02 2011**

Agenda

01.12.11

09:00 Opening (Egbers, Mutabazi)

Topic 1

09:20 Futterer: Natural convection with global rotation in spherical shells

09:40 Feudel: Natural convection in a rotating spherical shell - predictions for an experimental realization

10:00 Discussion

10:15 Coffee Break

Topic 2

10:45 Mutabazi: Linear stability on dielectrophoretic effect in a vertical slot and cylindrical annulus

11:05 Crumeyrolle: Numerical simulations of parabolic flight

11:25 Dahley: Parabolic flight experiment "Convection in a Cylinder" – Convection patterns in varying buoyancy forces

11:45 Discussion

12:00 Lunch

Topic 3

13:10 Gellert: The stratorotational instability with axial temperature gradient

13:30 Harlander: The Cottbus SRI experiment with an axial temperature gradient

13:50 Schmidt: A stochastic approach to model turbulent convection in stratified media

Topic 4

14:15 Herzog: The MRI analogy

14:25 Crumeyrolle: Status on experimental approach

14:35 Discussion

14:50 Coffee Break

Topic 5

15:20 Koch: Laboratory experiment and numerical simulations of inertial wave interactions in a rotating spherical shell

15:40 Borcia: Inertial waves inside a liquid confined between two rotating coaxial cylinders: case of small Ekman number

16:00 Discussion

16:15 Laboratory Tour

18:30 Dinner

02.12.11

09:00 Summary/Actions (all)

10:00 Short Coffee Break

Bearing Flows

10:20 **Arnaud Prigent:** Spiral turbulence in counter-rotating Couette Taylor system

10:50 **Patrice Le Gal:** The transition to turbulence in a rotor/stator cavity

11:10 Short Coffee Break

11:30 **Andreas Christl:** Eccentric Taylor- Couette flow with orbital motion of the inner cylinder

11:50 **Paul Gorenz:** Cavitations phenomena in journal bearings

12:10 **Jorge Peixinho:** Transition to Turbulence in diverging pipe flow

12:30 Lunch

14:00 Discussion/Summary/Actions

Annex

- Topic 1** Radial stratification in rotating spherical shells or cylindrical annulus (global and differential rotation): radial temperature gradient induced convection and effects of rotation
- Topic 2** Radial stratification in non-rotating cylindrical annulus: heat transfer and ElectroHydroDynamic (EHD) instabilities induced by dielectrophoretic force in dielectric fluids
- Topic 3** Stratorotational and radiative instabilities
- Topic 4** Analogy between Magnetorotational Instability (MRI) and ViscoElastic Instabilities (VEI) in a cylindrical annulus.
- Topic 5** Inertial waves in rotating spheres and spherical shells
- Topic 6** Bearing Flows and other technical applications