**Numerical and experimental study of large hydrodynamic bearings under severe operating conditions**

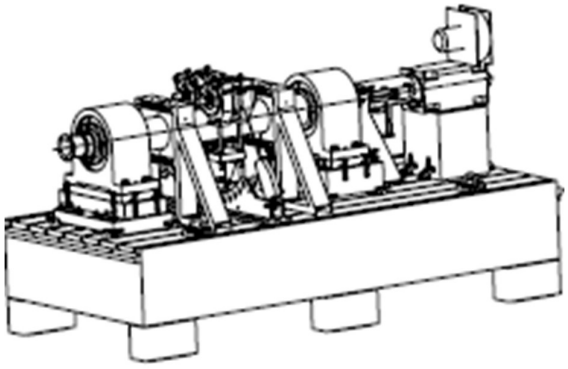
Director J. Bouyer, Co-director P. Jolly

Financing of the MESR thesis grant 100%.

Funding of experimental part from own funds and/or regional and ANR calls for projects.

Objectives: Severe testing on large hydrodynamic bearings (Stribeck bench)

- Misalignment,
- Starvation,
- Scratches,
- Complex fluids,
- High specific pressure,
- High speed,
- Morton effect,
- ...



The job will start with finalizing the connection of the hydraulic power unit to the test bench, checking the components and restarting the bench, developing and finalizing the control interface.

Scale 1 bearing tests will validate the similarity assumptions used for many years for tests on the conventional bearing test bench.

As far as the numerical aspect is concerned, the test results will be used to validate an existing numerical calculation code, in which fault handling will be implemented.

The applications concerned by this study are mainly power generation, both wind and nuclear.

View of the test rig during mounting