RFX-mod
the purpose

THE PURPOSE:

- Studying the potentialities of the RFP configuration in producing fusion plasmas.
- Understanding of RFP plasma physics.
- Exploring of improved confinement regions in the RFP.
- Advancing the active control of MHD instabilities.

POTENTIAL ADVANTAGES OF THE RFP:

1. No intrinsic limit on plasma current - high ohmic heating, sufficient to reach fusion condition (no need of additional heating system).
2. Self generated internal toroidal magnetic field (dynamo mechanism) - No need of superconductors for the toroidal field coils.
3. Operation without disruption (fast uncontrolled termination of plasma current).

WEAKNESS OF RFP:

1. The configuration is characterized by several Magneto-Hydro-Dynamic instabilities.
2. At present, low energy confinement time.