

## TCP on Reversed Field Pinches (RFP TCP)

The RFP TCP aims to advance the development of fusion power through research on the Reversed Field Pinch (RFP) magnetic configuration. The three members of the RFP TCP coordinate RFP experiments, and can share equipment and computational tools, as well as supporting staff exchanges.

### Main areas of work

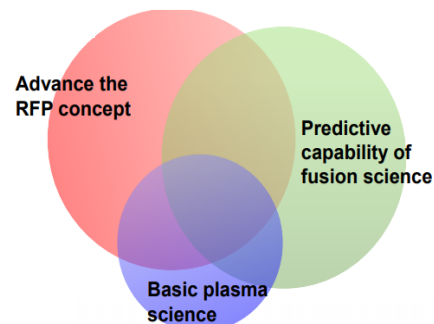
RFP experiments worldwide, all in academic environments:

- Extrap T2R (Sweden)
- Keda Torum eXperiment (KTX) (China)
- Madison Symmetric Torus (MST) (USA)
- RELAX (Japan)
- RFX-mod (Italy)

### Key activities and accomplishments (2017-2018)

Milestones reached in the following areas:

- Deeper understanding of helical RFP
- Active MHD control for mode stabilisation and plasma control
- Turbulence and transport
- Deeper understanding dynamo and associated physics in RFP
- Tokamak configuration studies
- Status of KTX (China)



*Three missions goals define unique RFP opportunities in fusion and plasma science.*



*RFP machines operating around the world.*

### Priorities and projects (2019 – 2020)

- A new algorithm for an upgraded active controller will be developed for Extrap T2R (EU)
- Upgrading of RFX-mod to RFX-mod2 with plasma experiments to begin in 2020
- Collaboration works progressing on MST under the new research facility in Wisconsin (WiPPL)
- Machine modifications; diagnostics development

## Multilateral collaborations

- The RFP TCP seeks to raise awareness for fusion power research, both among fellow experts and non-specialist communities. The TCP participates in joint meetings, public lectures, demonstrations of plasma science, communication of RFP research activities directed towards university and secondary schools, including seminars, guided laboratory tours, social media, and videos
- Collaboration with China is under discussion

## Membership



Japan



United  
States



European  
Commission

## Why should your organisation become a member of the RFP TCP?

As a close relative to the tokamak and stellarator configurations, RFP research advances fusion science and engineering generally, while resolving key challenges specific to a RFP-based fusion reactor.

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