Fusion reactor: Much more tritium than ever before will be used, processed and generated. Tritiated water: Exotic corrosion of metal is predicted.

**Purpose:** To investigate the effects of tritium on passivation of F82H steel.

![Anodic polarization curves for F82H steel in 0.05 M Na₂SO₄ with each [T] and [DO].](image)

- Self-passivation induced by dissolved oxygen is inhibited in tritiated solution.
- Even electrochemical passivation is inhibited when dissolved oxygen and tritium coexist.

In the future
- Tritium effects on iron corrosion will be investigated to discuss the elementary step.
- Simulative experiment as fusion reactor will be performed with the use of tritium.