

MPT/P7-38 Anodic Polarization Study on F82H Steel in Tritiated Water

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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.

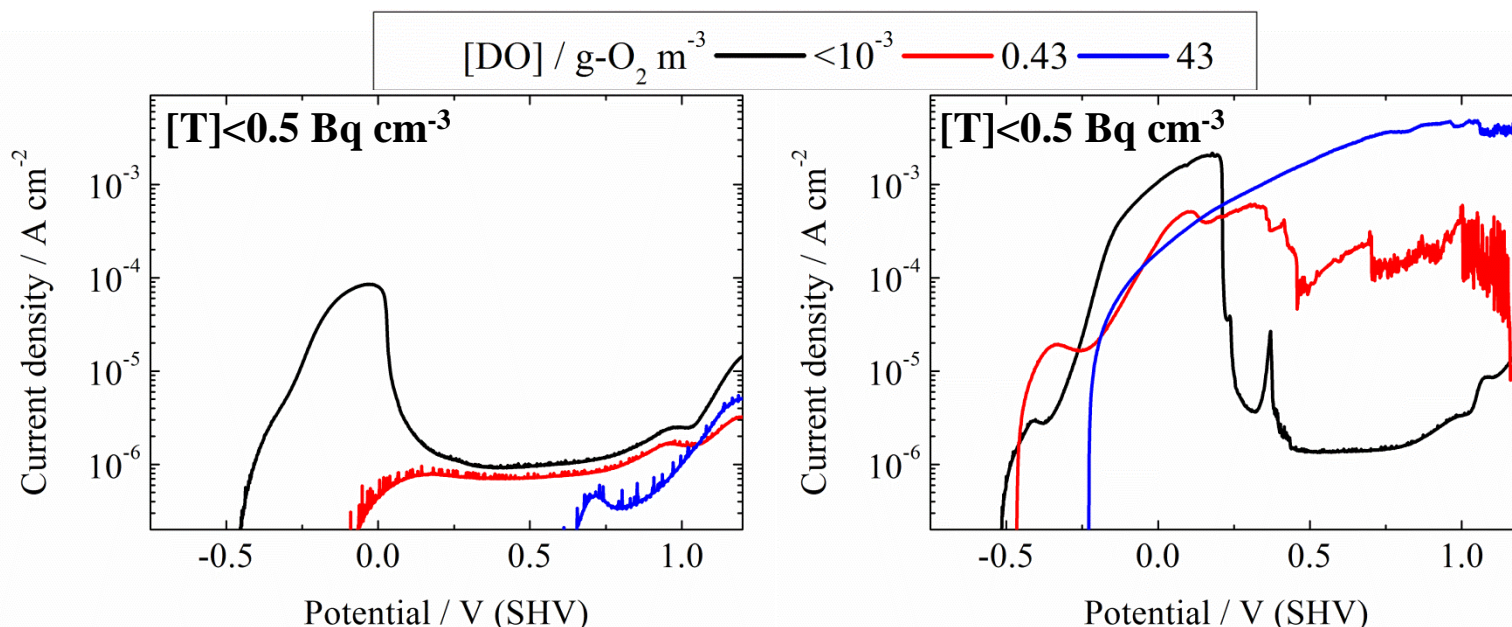


FIG. Anodic polarization curves for F82H steel in 0.05 M Na₂SO₄ with each [T] and [DO].

- 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.