Fusion Field Simulation

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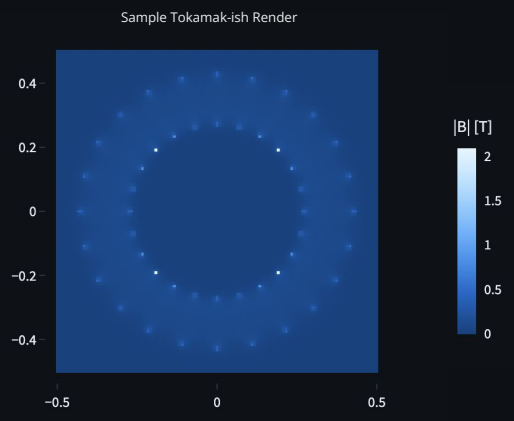
Magnetic-field playground for fusion concepts (tokamak-like coil sets, Biot–Savart field evaluation, simple plasma/pressure profiles) with a lightweight Streamlit UI and a few reproducible demos.

Features

- Coil geometry presets (e.g., *tokamak-like* toroidal field coils)
- Biot–Savart simulation on structured grids
- Basic plasma models & metrics (beta, on-axis B, etc.)
- Streamlit UI for quick exploration and plotting
- Scripted demos for sweeps and headless runs
- Unit tests for core presets



Install

> Python 3.10+ needed

```
# from the repo root
pip install -e .
# editable install so the local changes reflect immediately
```

> Launch the Streamlit app

```
# either
./scripts/run_streamlit.sh
# or
streamlit run src/fusion_project/ui/app.py
```