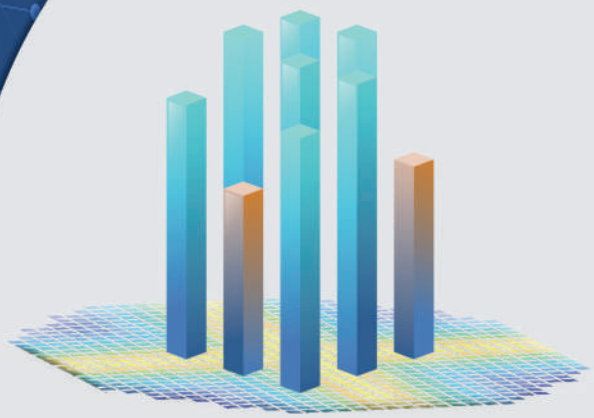
BLUE WAVE AI LABS

FluxGenius.ai

Next-Gen Neutronics Accuracy for Flux Measurement



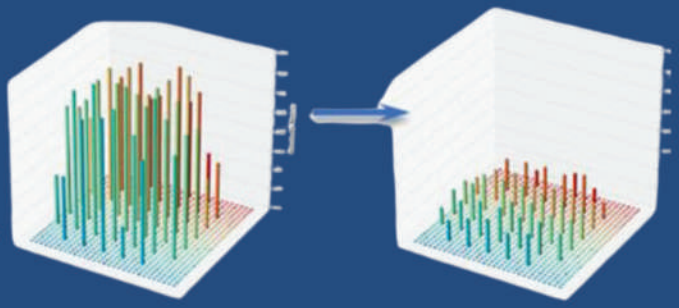
When Every Neutron Counts, We Count Every Neutron

FluxGenius.ai reads and analyzes your neutron flux monitor performance in real-time so you can:

- ✓ Avoid unnecessary maintenance costs and generation losses
- ✓ Maximize the life of your flux monitors
- ✓ Prevent TS violations by managing offline monitors more intelligently

Case Study: Preventing $1.23M in Generation Losses

Problem:
A power derate seemed all but inevitable when the customer noticed their plant was approaching thermal limits threshold within a matter of days.



Results:

- **Averted derating** and control blade insertion
- Operator estimates **avoiding generation losses of approximately $1.23M (!)**

> *"FluxGenius has given us unprecedented insight into the neutron flux behavior of our reactors, helping us to achieve significantly better accuracy for our power distribution, thermal limits, and depletions."*
>
> **-James Tusar, Constellation Nuclear**

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Benefits

- **Cost Savings:** Avoid unnecessary maintenance actions and maximize monitor lifespan
- **Enhanced Safety:** Ensure accurate flux monitor calibration and maintain regulatory compliance
- **Improved Efficiency:** Virtual calibration and predictive analytics streamline operations
- **Proactive Management:** Identify and address potential issues before they escalate

Key Features

1. Comprehensive Flux Monitor Diagnostics

- 3D view highlighting anomalous monitors
- Real-time display of flux readings
- Rod pattern and power distribution visualization
- Total power and core flow / boron concentration monitoring

2. Flux Reading Predictions

- Virtual measurements for offline/bypassed flux monitors
- On-demand virtual calibration

3. Remaining Useful Life Prediction (for LPRMs)

- Neural network-based calibration current prediction
- End-of-life detection for LPRMs

4. Advanced Anomaly Detection

- Drift analysis
- Frozen instrument identification
- Outlier detection
- Noise change monitoring

5. Real-Time Data Feed

- Continuous updates of flux reading data

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