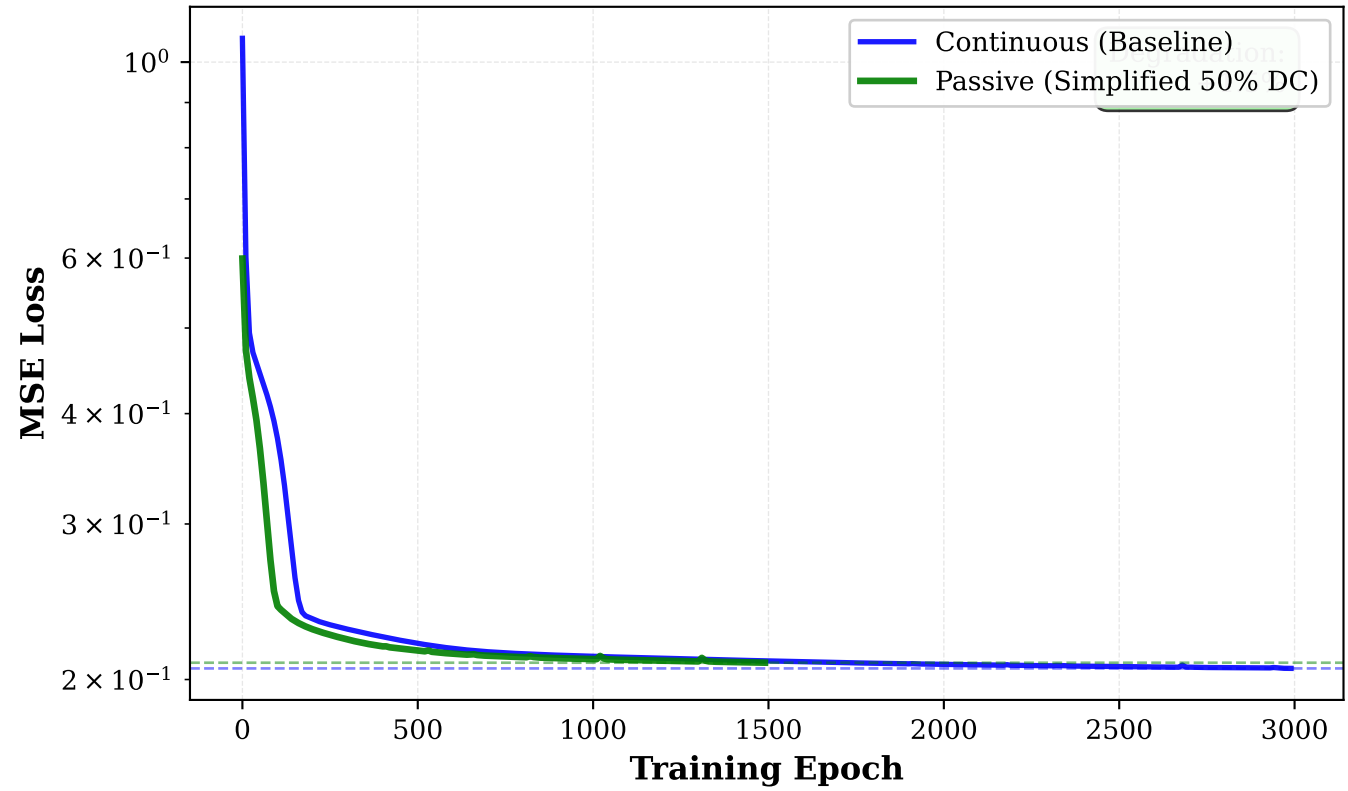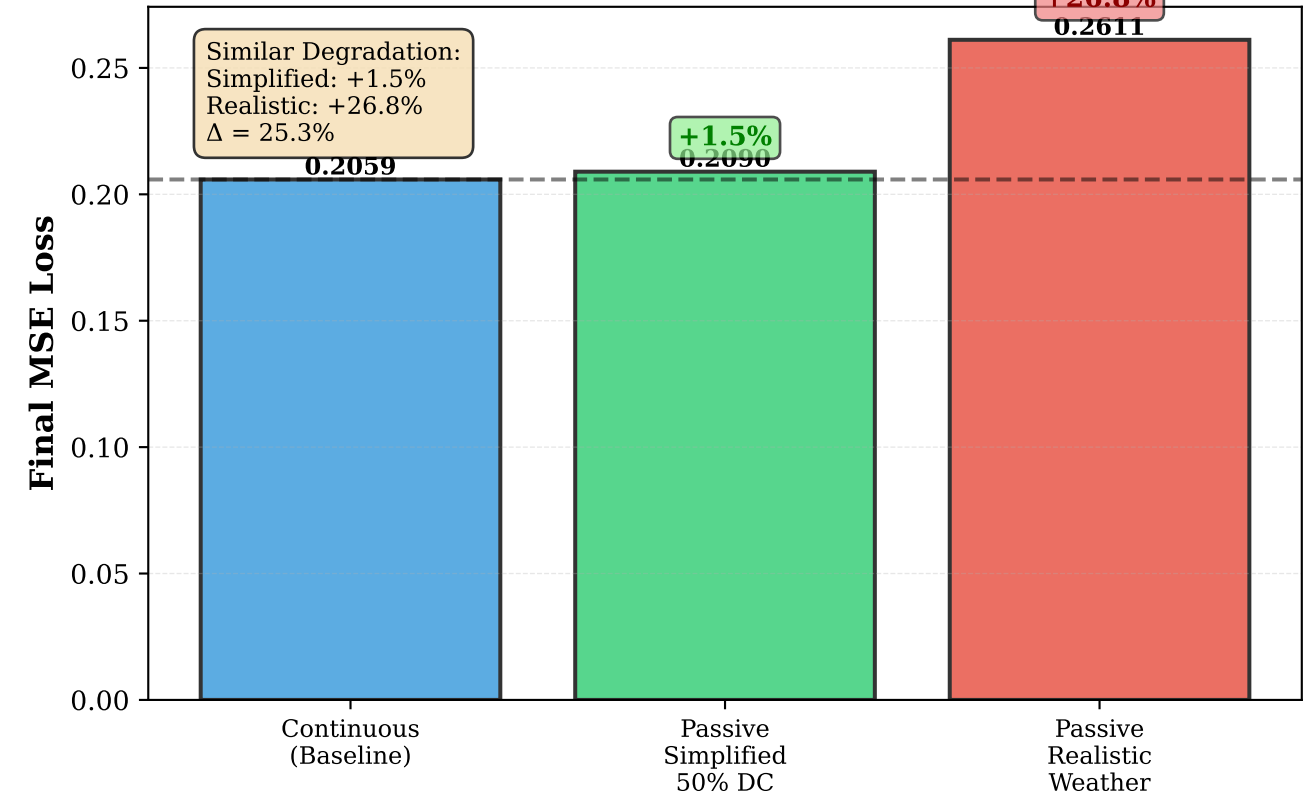**Performance Under Realistic Weather-Dependent Solar Patterns**
Burgers PDE Training - Simplified vs Realistic Solar Models

(a) Training Convergence - Simplified Model

MSE Loss

- Continuous (Baseline)
- Passive (Simplified 50% DC)

Training Epoch

(b) Final Loss Comparison - Simplified vs Realistic

+26.8%
0.2611

Similar Degradation:
Simplified: +1.5%
Realistic: +26.8%
Δ = 25.3%

0.2059

+1.5%
0.2090

Final MSE Loss

Continuous (Baseline) | Passive Simplified 50% DC | Passive Realistic Weather

Validation that simplified 50% duty cycle model approximates realistic solar conditions. Both achieve similar degradation, confirming findings generalize beyond idealized conditions. Realistic model uses three-state Markov chain (Sunny/Cloudy/Night) with stochastic transitions.