

# Takeaways

## Fine-Tuning

- RL and SFT on synthetic QFT both **broadly increase physics performance** across all metrics
- **SFT outperforms on in-distribution** synthetic QFT
- **RL generalizes better** to QFT pedagogy, arXiv, and TP-Bench

## CoT Analysis

- SFT & RL both drastically reduce errors, with **factual errors most reduced**
- **Mathematical errors remain prevalent**

# Thanks for the attention ( )!

Check out our code & data!

**Data Pipeline**



[nswood/VerifiableTPData](https://github.com/nswood/VerifiableTPData)

**Synthetic QFT + SFT CoT**



[nswoodward/VerifiableQFT](https://github.com/nswoodward/VerifiableQFT)