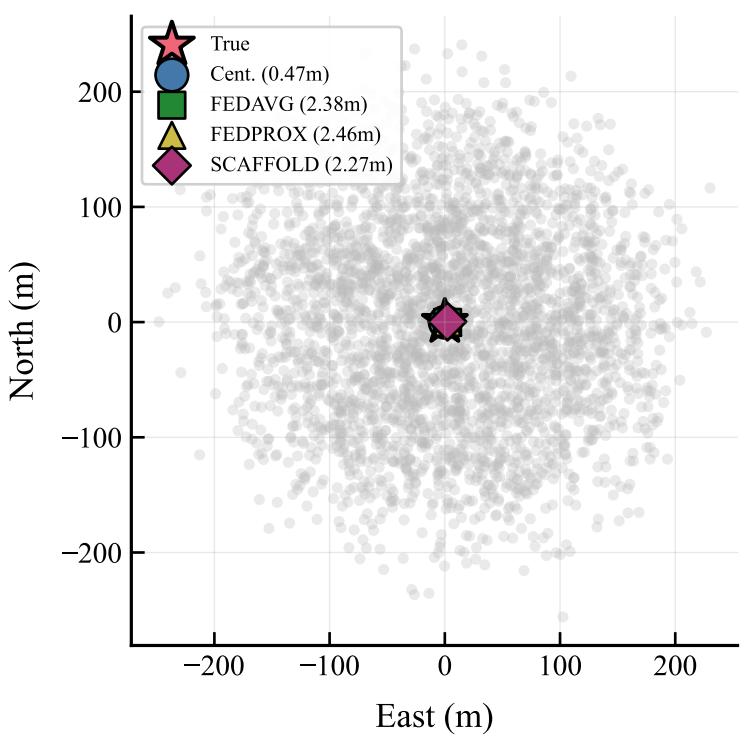


## Stage 2: Localization Summary — Urban

**(a) Localization Results**



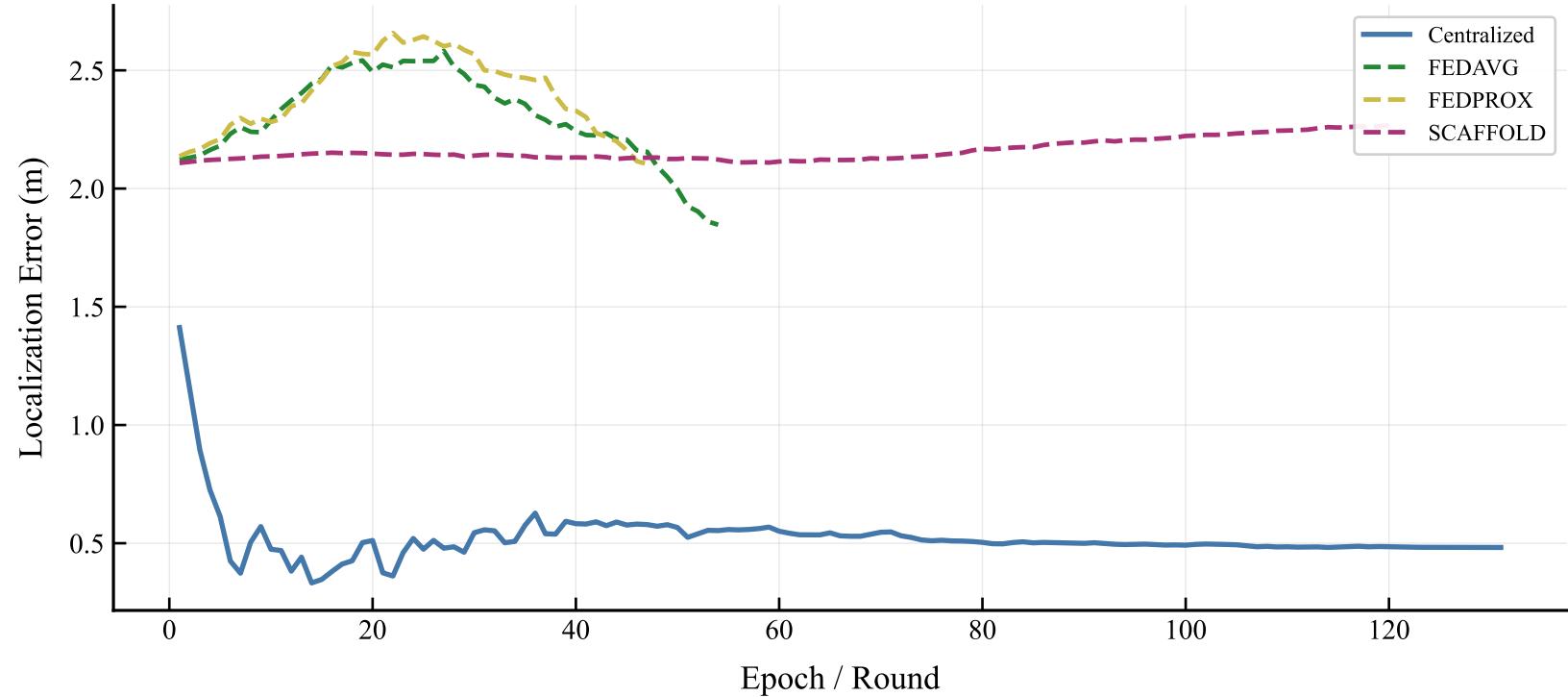
**STAGE 2 METRICS**

Centralized:  
Error: 0.47 m

Federated:  
FEDAVG: 2.38 m  
FEDPROX: 2.46 m  
SCAFFOLD: 2.27 m

Dataset: 3,232 samples  
Environment: Urban

**(b) Convergence Comparison**



**(c) Final Errors**

