

Enhanced Polarization Learning Optimizer (EPLO)

Purpose

Robust optimizer for constrained designs
and dynamic planning

Method

Sobol initialization
Polarized multi-group learning
Elite migration

Conclusion

Balanced exploration vs exploitation
adaptive polarized learning

Nonlinear adaptive schedules

Low exploitation via gradients

Key findings

Faster convergence and robustness vs baselines
Best on CEC2022 and five designs
Effective in UAV and WSN localization