

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-exploitation via adaptive polarized learning

Nonlinear adaptive schedules
Lévy-reflection + gradients

Key findings

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