Constraint handling in PSO

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Chu et al. (2011) propose a method for handling constraints in the PSO framework.

Questions

- 1. Explain the PSO algorithm and compare it with at least two other biologyinspired methods. Give examples where they have been successfully used. How were the contraints handled? Comment on the results.
- 2. Implement the three basic boundary handling methods described by Chu et al. (2011) and test them on a synthetic example. What are their advantages and shortcomings? Comment the results.

References

Chu, W., Gao, X., and Sorooshian, S. (2011). Handling boundary constraints for particle swarm optimization in high-dimensional search space. *Information Sciences*, 181:4569–4581.