

# Behavior Analysis of Constrained Multiobjective Evolutionary Algorithms using Scalable Constrained Multi-Modal Distance Minimization Problems

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***Index Terms***—Evolutionary multiobjective optimization, multi-modal property, constraint handling

## I. INTRODUCTION

## REFERENCES

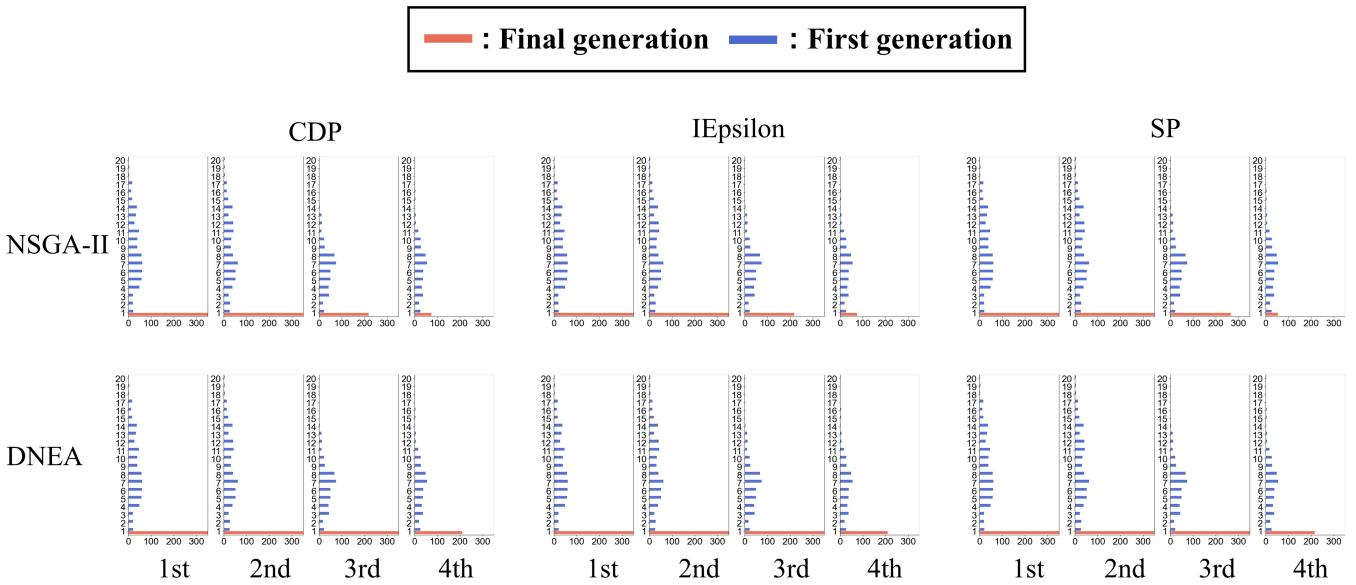


Fig. 1. The histograms of distance between each solution and the nearest PS for a two-dimensional not constrained problem

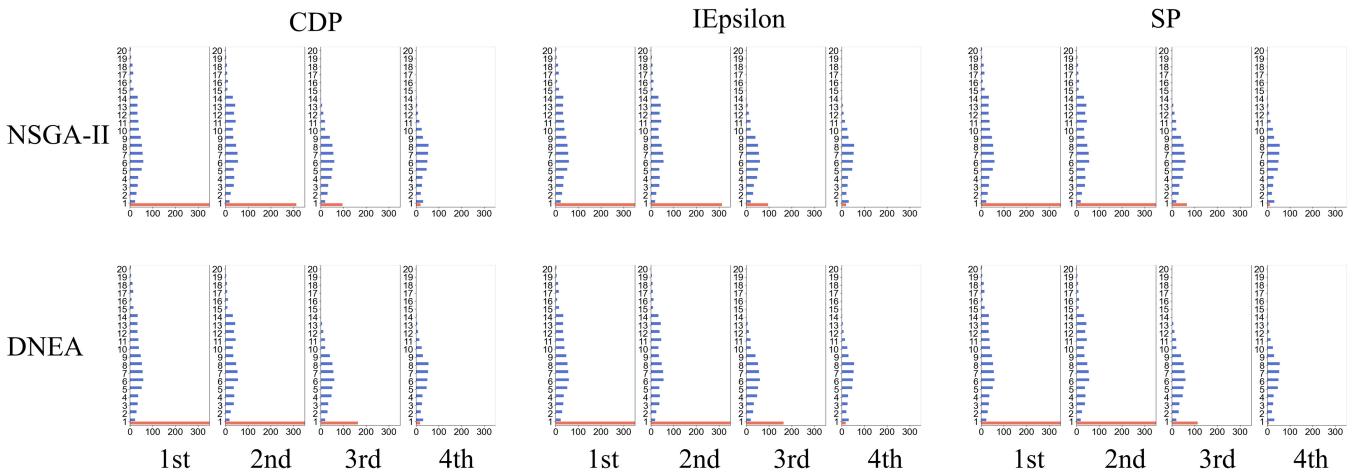


Fig. 2. The histograms of distance between each solution and the nearest PS for a four-dimensional not constrained problem

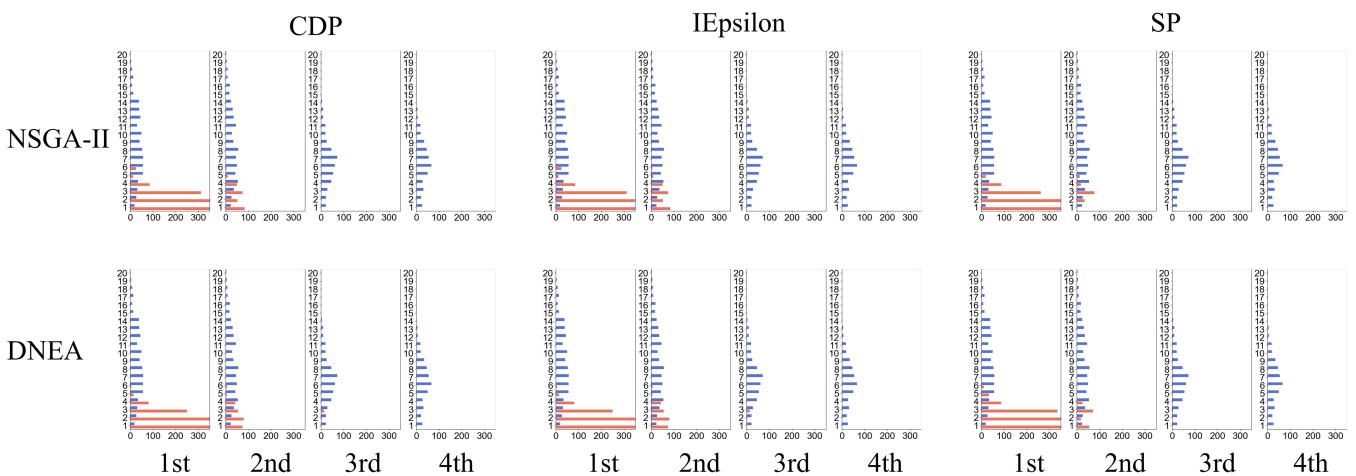


Fig. 3. The histograms of distance between each solution and the nearest PS for a 50-dimensional not constrained problem

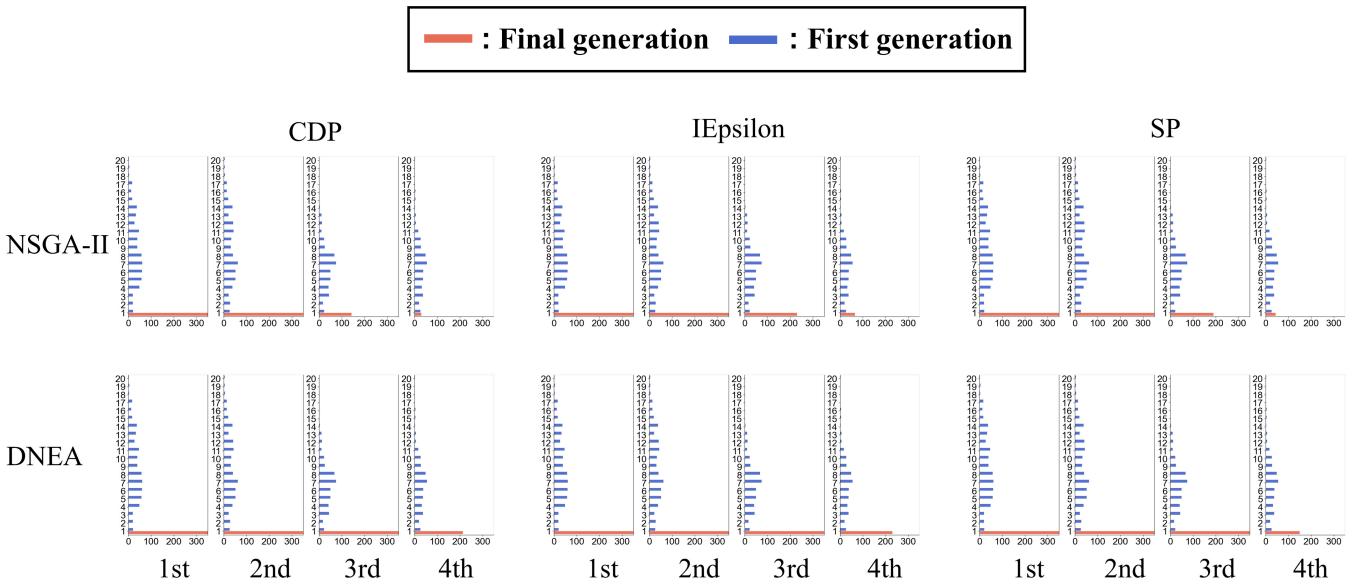


Fig. 4. The histograms of distance between each solution and the nearest PS for a two-dimensional problem with moat-type constraints

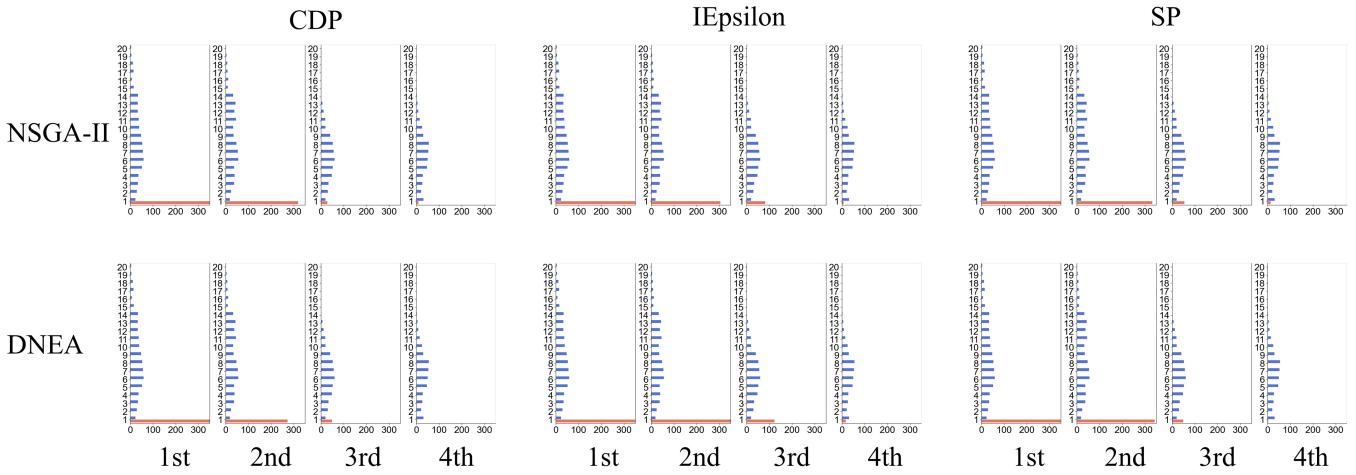


Fig. 5. The histograms of distance between each solution and the nearest PS for a four-dimensional problem with moat-type constraints

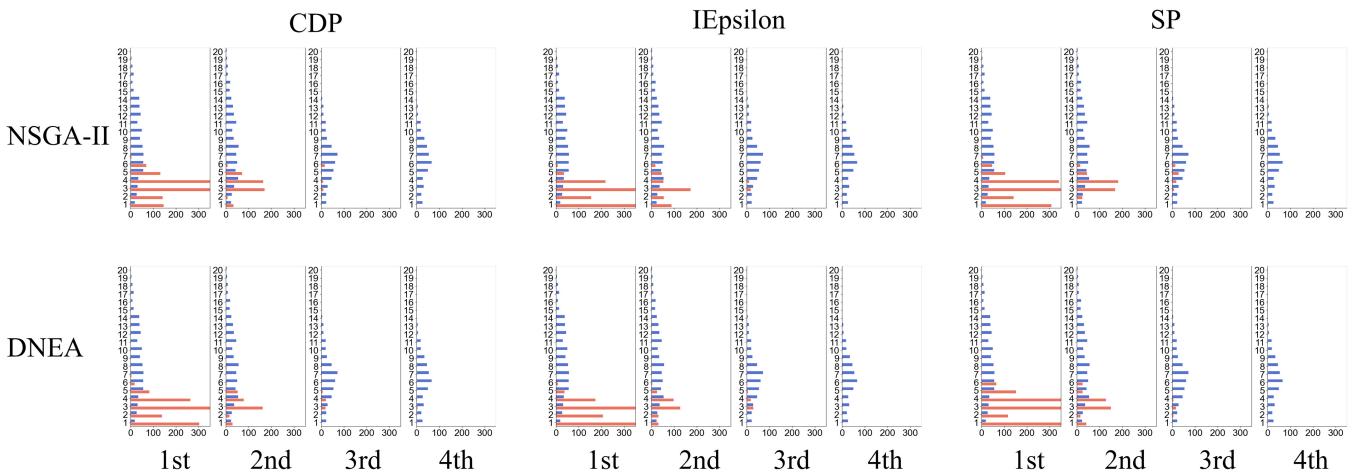


Fig. 6. The histograms of distance between each solution and the nearest PS for a 50-dimensional problem with moat-type constraints

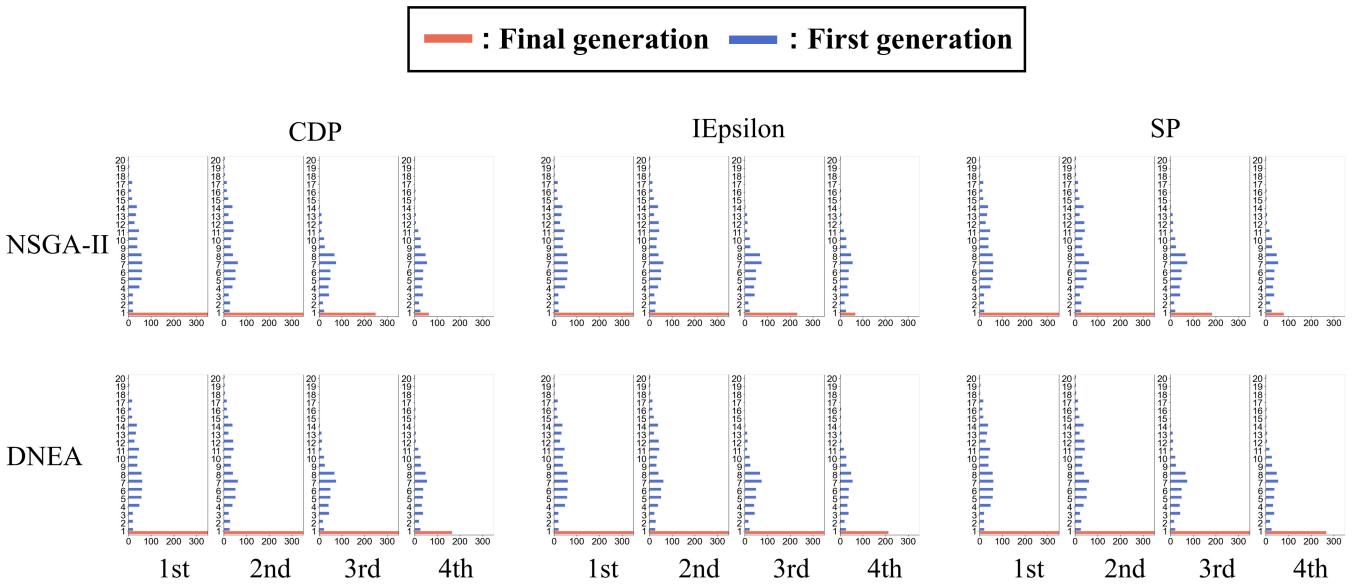


Fig. 7. The histograms of distance between each solution and the nearest PS for a two-dimensional problem with checker-type constraints

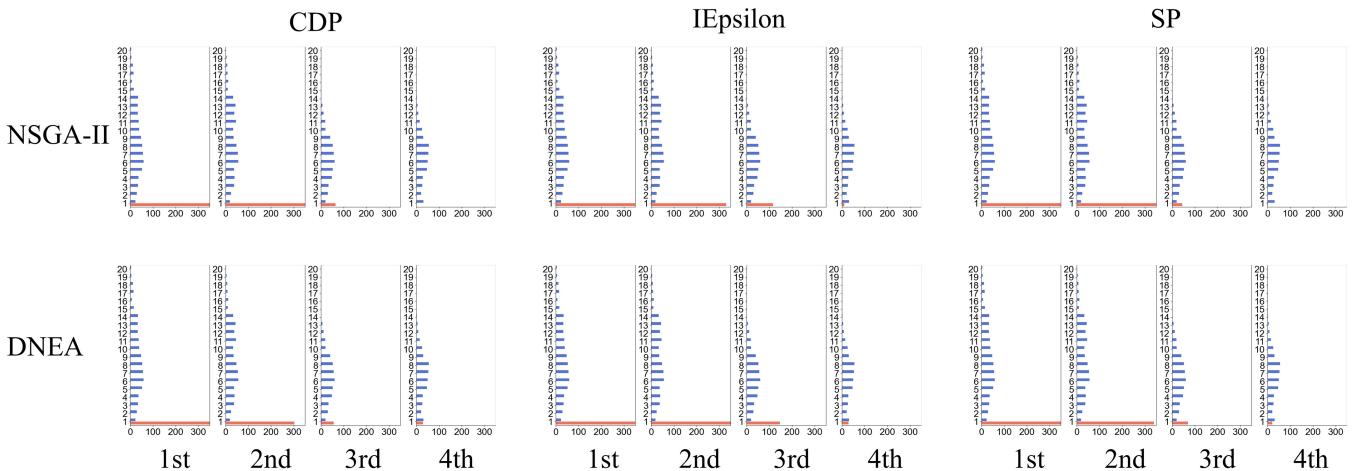


Fig. 8. The histograms of distance between each solution and the nearest PS for a four-dimensional problem with checker-type constraints

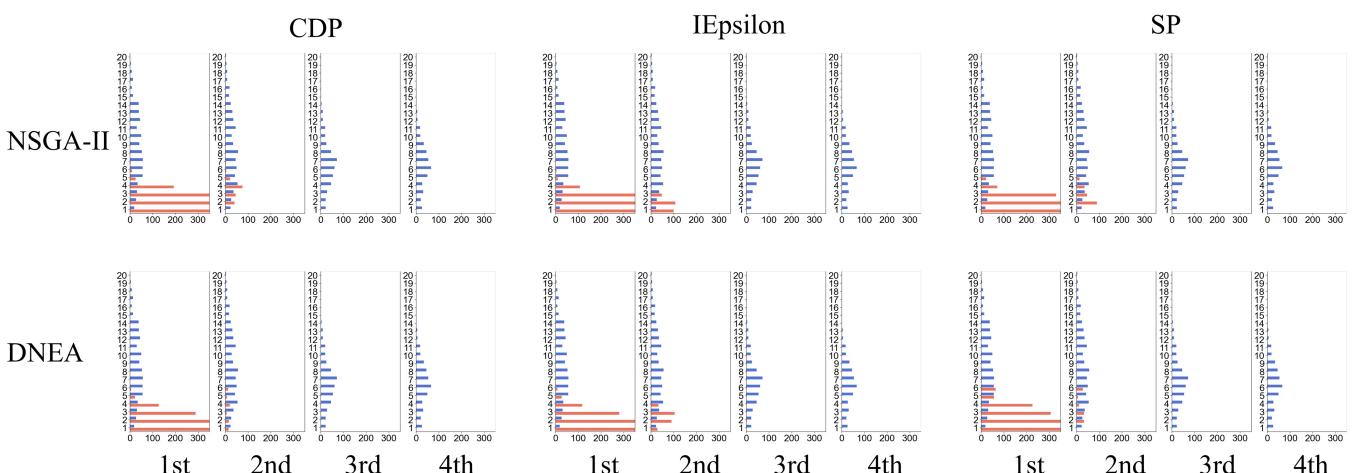


Fig. 9. The histograms of distance between each solution and the nearest PS for a 50-dimensional problem with checker-type constraints

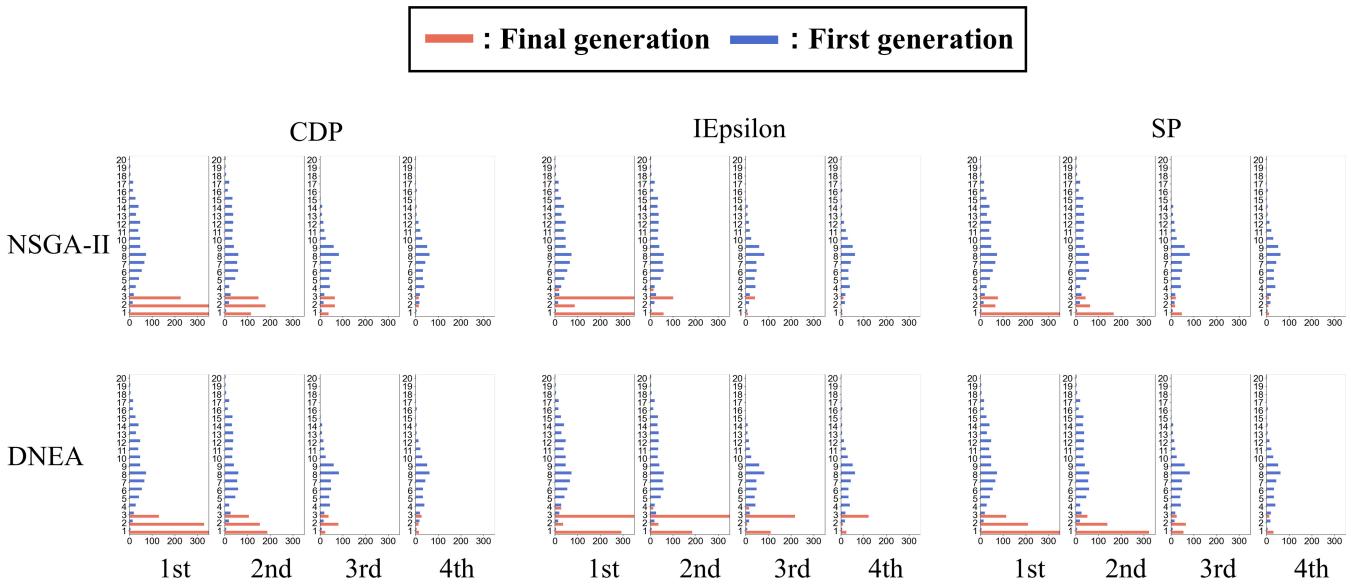


Fig. 10. The histograms of distance between each solution and the nearest PS for a two-dimensional problem with vertices-type constraints

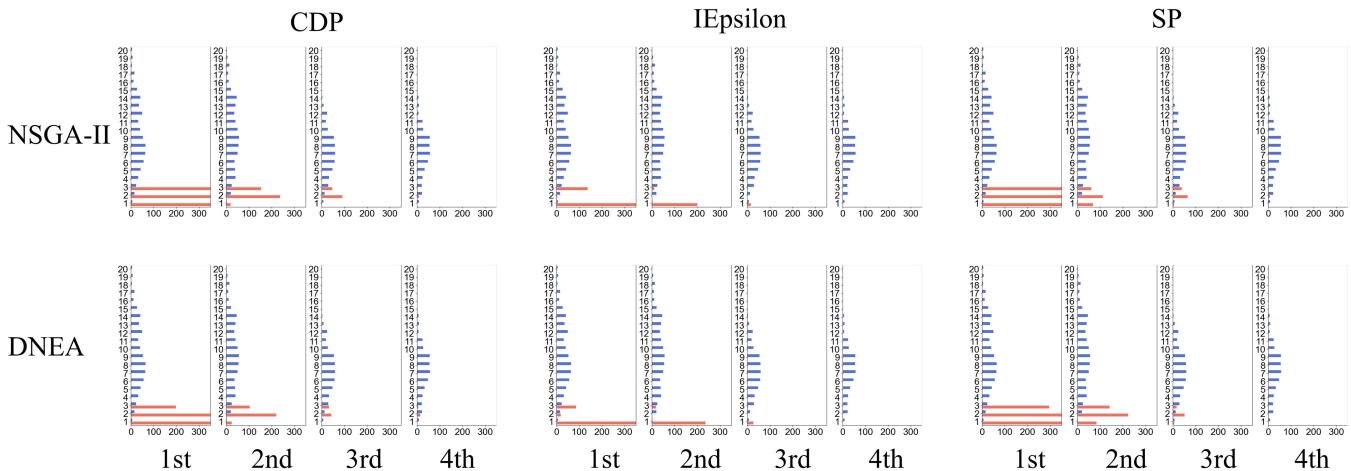


Fig. 11. The histograms of distance between each solution and the nearest PS for a four-dimensional problem with vertices-type constraints

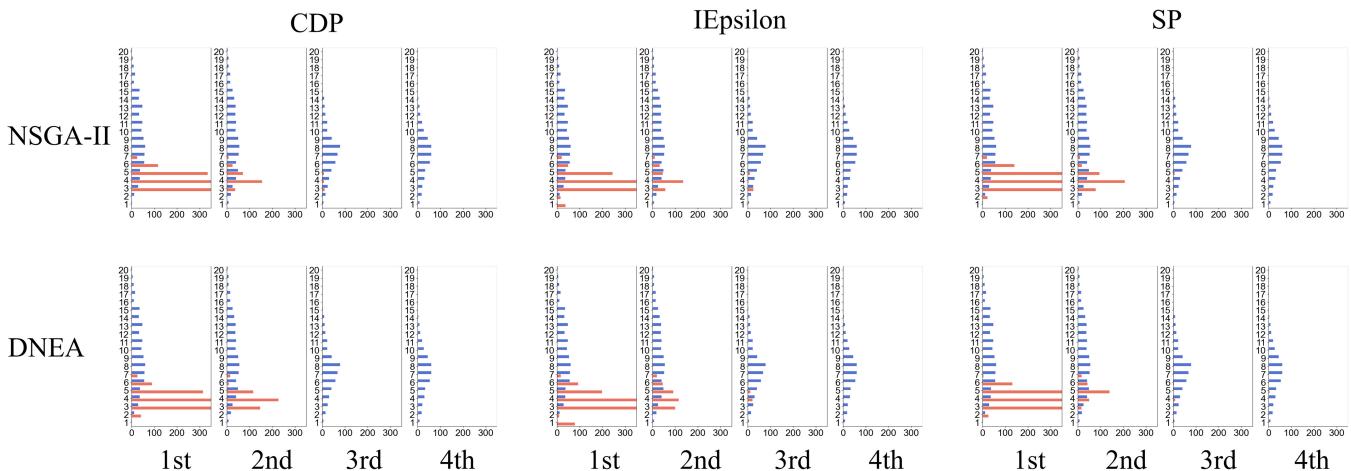


Fig. 12. The histograms of distance between each solution and the nearest PS for a 50-dimensional problem with vertices-type constraints