Cover Letter for algorithms-1212455

In this cover letter there are the responses to the comments of reviewers for previously rejected paper with id “algorithms-1212455”. The main additions are the utilization of a Multistart variant (namd repulsion algorithm) in the experiments and the inclusion of more recent references in th Introduction section.

Best regards

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# 1. Comment

It makes sense to avoid basins of attraction, and I believe that with the authors’ additional comment clarifies this. However, I still have some confusion. The set X^\* is the set of points obtained after running the local search (such as BGFS). Therefore I would expect that ∇f(z) ≈ 0. If not, then what is the stopping criterion for the local methods? If the authors expect that the local method does not use first order information, then it puts into question the idea of using (7) to determine if x is in the region of attraction.

# Response

Of course ∇f(z) ≈ 0 for a local optimum z. The rejection equation (7) holds for any two samples x,y that could be in the same region of attraction. We used it to identify if two points x and y are in the same area of attraction by using only gradient and point information.

# 2. Comment

CRS, Simulated Annealing and Particle Swarm work very differently that the multistart. They have no guarantee of convergence and belong to a different family of algorithms. Arguably, when the derivative (and potentially the second derivative) is available, they are not necessarily the methods of choice. Since the method was started as an enhancement for the traditional multistart, in my opinion it would still make more sense to compare it with other enhancements of the multistart method.

# Response

The mentioned methods have used as a comparison with more modern and advanced techniques for global optimization from the relevant literature. Also, in the new version of the paper a comparison with the “Repulsion Multistart” method has been performed and the results are listed in a column named “MREP” in Table 1.

# 3. Comment

Please also provide explanations for these figures in the text.

# Response

Additional text has been added in almost every figure caption in the new version.

# 4. Comment

There are some relevant literature review missing, namely more recent!

# Response

We have added new recent references in the Introduction section for the new version of the paper.