

We would like to thank anonymous reviewers for their valuable remarks on the content of the paper. Corrections were made, and more detailed description was added where needed.

Reviewer A:

0. English and formatting are of low quality and must be revised (some comments are outlined below).

Modified according to the comments

1. It's unclear why the group re-distribution is impossible: "Regarding loosely coupled computer systems, it's required to minimize the interaction between computational nodes, hence re-distributing groups during the calculations is impossible." I suppose it can be inefficient, but it depends on the overhead to re-distribute these groups (amount of data to be transferred, link bandwidth and other) and potential speedup due to load rebalancing.

Paraphrased – indeed not impossible but highly inefficient

2. I would avoid the discussion about aspects of the MEC algorithm and its similarity to the human behavior in the Introduction. This paragraph gives not much information to the reader but raises many questions. Otherwise, this paragraph must be extended significantly.

To avoid misunderstandings that phrase was removed

3. Phrase "static adaptive load balancing method" is self-contradictory.

Corrected

4. Descriptions of the computational procedures should be presented as Algorithms but not enumerated lists. This will substantially improve the readability of the text.

Descriptions are very detailed for the sake of understanding are presented as lists rather than brief algorithms

3. First algorithm in section 2:

a. line 2: "For every x_r , $r \in [1:N]$ r can't change starting from r ."

Corrected

b. line 3: What is meant by the statement "Euclidean distance between any two individuals."?

Euclidean distance between two points is simple to calculate so the formula is omitted for the sake of space

4. Tab. 1: How d_D is defined? What j index means in $d_j(l)$? How the threshold value 2.5 is chosen? Some comments needed.

Comments were added

5. Algorithm in section 3: This algorithm has no step 7. Step 7 of algorithm 1 is meant?

Corrected

6. Performance Investigation results:

a. The presented results has no relation with performance. I see the accuracy evaluation results only. Does the same sequences of pseudo-random numbers (initial populations) used for parallel SMEC and SMEC/LA runs? What is meant by “multi-start method” - statistical averaging of results of 100 runs with random initial data?

Yes, it's the statistical averaging used in stochastic optimization methods. The main idea is to improve the accuracy of optimization while not worsening the performance measured in the number of iterations.

b. No legends at Fig. 3 and 4; figures have equal captions.

Added.

c. If I correctly understand the presented results, parallel SMEC/LA provides better accuracy but needs 10-30% more iterations compared to parallel SMEC. Thus, I expect the execution time is higher for SMEC/LA. Can the same accuracy as provided by SMEC/LA be achieved by SMEC with slightly different set of method parameters (e.g., number of individuals in each group, or other) with the execution time comparable with the one obtained for SMEC/LA? The validation section must be extended with the execution time results. Also, it would be interesting to see the same results for additional set of governing parameters.

Thanks for this feedback which we will work towards in one of the next studies.

d. “Obtained results demonstrate the superiority of the proposed SMEC/LA algorithm in comparison with the simple parallel MEC.” As far as I understand, it is true for the accuracy only. And it must be clarified.

e. It needs to be clarified what is meant here by computational nodes. Physical CPU cores, virtual computational processes or something else?

Corrected

Incorrect or unclear sentences, that must be rephrased:

1. In \figref{1} an example of calculating a diameter is demosntrated for the first sub-population of individuals generated for the two-dimensional Composition Function 1 from CEC'14~\cite{ref17}.

2. Tolerance used for identifying stagnation was equal to ϵ .

10⁻⁵\$.

Technical comments and grammar: - *All corrected, thanks for noticing.*

1. Author names must be written in full (e.g., Ivan I. Ivanov). The authors have the same affiliation, thus the single reference must be used.
2. There are lots of “Russian style” phrases, e.g.:
 - one of the main ...
 - it is well known that such a ...
 - most often ...
 - by the fact that they can be ...
 - as efficiently as possible ...
3. Verbs missing:
 - section 1, after eq (1): – is the scalar objective function ..., – is the required minimal value, etc.
 - section 2, description of the second algorithm, step 4.
4. Typos:
 - Euclidian -> Euclidean
 - arithmetic space -> arithmetical space
 - algorithm -> algorithm
 - demosntrated -> demonstrated
 - numeric experiments -> numerical experiments
 - it's -> it is
 - didnt -> did not
5. There are lots of hyphens, which must be removed (mostly in the sections Adaptive Load Balancing, Performance Investigation, Conclusions, References).
6. Comma missing after the formula in eq. (1).
7. In the text the “en dash” symbol is typically used instead of “minus”.
8. The figures and tables are typically referenced as Fig. 1, Tab. 2, but not, e.g., tab. tab2.
9. Formatting of the bibliography section must be revised.
10. Section 1, lost parentheses in: “... the whole subpopulation $S = S^b, S^w$ ”
11. Section 2, “numerical values for the parameter ___ are”, symbol missing.
12. Section 2, third expression for $\sigma(l)$: star is unnecessary
13. Section 4, Φ_{bar} – incorrect symbol;
14. Section 4, “the number of stagnation iterations ” - missing symbol
15. Algorithm in section 3: line 2: $\$ \ln \$$ symbols missing

Reviewer B:

1. The paper does not contain the baseline algorithm description. I believe the paper would benefit from adding such paragraph and giving a bit more

detailed description of all algorithms. I also suggest adding an explanation what every letter in the algorithm description corresponds to, and check all statements carefully. For example, I do not understand what is [r:N] (probably, [1:N]), and the reference to "Step 7" seems confusing to me, because I see only 5 steps presented. An improvement of the description would make it much easier for readers not familiar with the MEC algorithms.

2. The paper includes several misprints, for example:

- algorytm
- tab. tab 2
- multiple wrong hyphens in words probably due to an unfortunate copy from the text editor (gener-ating, adapta-tion, algo-rithm, syn-chronous, itera-tions, ...).

A round of proofreading would improve the paper.

All remarks are considered and modifications were made

Reviewer C:

1. Article's title and all the headings are correct

- first letter of each word is capitalized
- no hyphenations
- no full stop at the end

:

Yes

2. Authors' names are correct

- firstname is not shortened
- initial of patronymic name for Russian-language authors is given

:

No -> *corrected*

3. Abstract's size is correct (consists of 150 to 250 words)

:

No -> *enlarged*

4. Keyword list's size is correct (consists of 4 to 10 words and (or) phrases)

:

Yes

5. Affiliations of the authors are correct (organization(s), city and country are indicated)

:

No -> *corrected*

6. Figures are correct (if any)

- placed near their first reference
- pictures are at least 300 dpi resolution
- no full stop at the end of caption

:

Yes

7. Tables are correct (if any)

- placed near their first reference
- no full stop at the end of the caption

:

No -> *The correct template was used*

8. Source code listings are correct (if any)

- listings are placed as figures
- proper code indentation is provided

:

Yes

9. Acknowledgements are correct (if any)

- not numbered
- placed between the main text and the references section

:

Yes

10. References are correct

- references are listed in alphabetical order
- DOIs in the references list are provided (where applicable)
- references in the text are enclosed in brackets, separated by a comma and a space
- multiple references forming a range of numbers are written as that range using a dash between the numbers

:

No -> *formatted according to the guidelines*

11. Submission metadata filled in the JSFI web-site by the article's corresponding author are correct

- metadata are filled in for all the authors
- title, abstract and keyword list are correct and are the same as in the article's text
- reference list is correct and is the same as in the article's text

:

No -> *corrected*

12. Comments for the author(s) (detailed notes on all of the above criteria with a "No"):

References.

1. Correct a wrong formatting of DOIs. Use the following format: "DOI: <DOI>" instead of "<http://dx.doi.org/><DOI>"
2. Correct a wrong formatting of references according to the Author guidelines, cf. <http://superfri.org/superfri/about/submissions#authorGuidelines> (section REFERENCES AND REFERENCE LIST).
3. Replace “//” with dots.

Metadata.

1. Do not forget to change references in the article's metadata at the journal website after changes of reference list in the article's text. Be sure to remove numbers and redundant line brakes from references. Please separate individual references with a blank line.

Figures and tables.

1. Use abbreviations "Fig." and "Tab." for cross references to figures and tables respectively (with the exclusion of the case when the word starts sentence).
2. Figures 3 and 4 should be transferred into w/b color scheme
3. Placement of table caption is formatted wrong. Authors should prepare manuscript using SuperFri's LaTeX macro package (cf. <http://superfri.org/upload/journals/1/templates/superfri-template.zip>).

Basic info about the Article.

1. Information about recommendation for publication should have star (*) marker.

Text of the Article.

1. Each organization should be mentioned in affiliation once. If two authors are from same organization, they should have same number near their surname.
2. First letter of keywords should not be capitalized.
3. In text use dash instead of hyphen.
4. Abstract should be enlarged. Abstract's optimal size is 150 to 250 words.