

Dear Dr Botond Bertok

Below are the answers to the questions raised.

- 1. Can the convergence of the algorithm be guaranteed, i.e., can it be guaranteed, that the differences between the measured and estimated values of  $t-s$  and  $cp-c$  decreases in each iteration, and the iterative algorithm will stop?**

Since the objective functions are convex, and the constraints are linear, confirmed on case studies and the similar work of Beck (2015), it can be concluded that the convergence is guaranteed.

Beck A., 2015, On the Convergence of Alternating Minimization for Convex Programming with Applications to Iteratively Reweighted Least Squares and Decomposition Schemes, DOI: 10.1137/13094829X

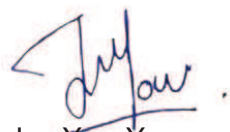
- 2. Can the presented steps of heat path design applying SRTGD be formulated as an algorithm in the form of a flowchart for example?**

Yes, an algorithm has been formulated, but the main innovation of the current PhD thesis is in providing a tool for applying any heat exchanger network retrofit algorithm. As written in the thesis, to utilise SRTGD in heat exchanger network retrofit, the first two steps are to construct it and develop the heat path. The algorithm applied in the particular case study is based on the heuristic method developed by Varbanov and Klemeš (2000). However, the SRTGD is applicable to any other algorithm, where the retrofit steps have to be generated or visualised by the operator. In the thesis, several possible steps are shown and discussed.

I believe that the answers are sufficiently clear for the questions raised.

Thank you.

Yours Sincerely



Jun Yow Yong

19 April 2019