

RESPONSE TO THE REVIEWER LETTER
on the manuscript
“Ball comparison for three optimal eight order methods under weak
conditions” by I. K. Argyros and S. George

The following actions were taken based on the comments of the
Reviewer # 1

The authors consider nonlinear equations in \mathbb{R} and deal with three optimal iterative methods of order eight. They obtain improved convergence results ensuring the local convergence of the iterates. The results are interesting and we recommend the publication of the manuscript in *Studia UBB Math*.

There are some minor corrections and improvements we suggest,.

1. Usually the nonlinear mapping F is not an invariant for the set S on which is defined (right below formula (1.1)), $F : S \rightarrow T$ (T instead of S).

Done.

2. The three methods, (1.2)-(1.4), should be presented in a more clear fashion:

Separated more.

3. The original authors perhaps should be mentioned (instead of just references);

Done.

4. In (1.2) A_n should be inserted in the formula;

It is there in the third substep.

5. $F'(x_n)$ should be used instead of $F'(x_n)^{-1}$ (which is used for multidimensional spaces).

Done.

6. Page 8, one line before (2.32) it is [18] instead of [19]

Done.

7. The computational convergence orders mentioned in d) on p. 9 have a longer history, presented in the paper [Catinas, A survey on the convergence orders and computational convergence orders of sequences, *Appl Math Comput*, 343 (2019)], where are given also some complete proofs. Perhaps the numerical examples in the end should check also the convergence orders from theory.

we have now computed ACOC and COC.

Reference inserted and cited.