Interactive comment on “A distributed computing approach to improve the performance of the Parallel Ocean Program (v2.1)” by B. van Werkhoven et al.

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The hierarchical partitioning scheme described in section 2.3 does not seem novel by itself as the same scheme has been available e.g. in the Zoltan library for almost 10 years [1, 2]. Basically the only difference between e.g. figure 12 of [2] and figure 4 of this work is the number of partitions at each level of the hierarchy (2 and 4 vs. 4 and 3 or 2 respectively) and the algorithm used for partitioning (graph and IRB vs. block type respectively). In Zoltan one can also use any supported partitioning algorithm [3] independently of the algorithms used at other levels of the hierarchy, which does not seem to be possible in the presented scheme.
In light of the above I suggest the following changes:

In the abstract change

...two innovations to improve the performance of POP are presented.
into

...two methods for improving the performance of POP are presented.
and

The first is a new block partitioning scheme...
into

The first is a block partitioning scheme...

In section 2.3 change

Our new hierarchical load balancing scheme, like the rake and space-filling curve algorithms described earlier, assumes...
into

Our hierarchical load balancing scheme, like the rake and space-filling curve algorithms described earlier, assumes...

In section 6 change:

The new hierarchical load balancing scheme was shown...
into

The hierarchical load balancing scheme was shown...


Interactive comment on Geosci. Model Dev. Discuss., 6, 4705, 2013.