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A scalable parallel algorithm for atmospheric general circulation models on a multicore cluster

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Highlights (for review)**My Highlights**

1. We propose a scalable parallel algorithm with two-dimension domain decomposition for atmospheric general circulation models.
2. We implement the parallelization of the IAP AGCM4.0 model whose parallel efficiency can reach up to 50.88% on 512 CPU cores.
3. We implement computing of thousands of cores of the IAP AGCM4.0.
4. We design different numerical experiments to test our algorithm, and the results demonstrate that our algorithm is effective and scalable.

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