



Efficient 2d full waveform inversion using Fortran coarray

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We developed a time-domain seismic inversion program using the coarray feature of the Fortran 2008 standard to parallelize the algorithm. We converted a 2d acoustic parallel full waveform inversion program with Message Passing Interface (MPI) to a coarray program and examined performance of the two inversion programs. The results show that the speed of the waveform inversion program using the coarray is slightly faster than that of the MPI version. The standard coarray lacks features for collective communication; however, it can be improved in following standards since it is introduced recently. The parallel algorithm can be applied for 3D seismic data processing.