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Parallelism to solute transport code MT3DMS and case study in TU. Freiberg

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A parallel software for 3-D Multi-Species Transport Model MT3DMS was developed. Open Multiprocessing (OpenMP) was used for communication within the processors. MT3DMS emulated the solute transport by dividing the calculation into flow and transport steps. A new preconditioner, derived from Symmetric Successive Over Relaxation (SSOR), is added into the generalized conjugate gradient solver. A case study in the test field at TU Bergakademie Freiberg was used to produce the results and analyze the code performance. A demonstration test field indicated that the parallel mode for MT3DMS is accessible within a processor and problem size. A low timeframe occurs due to speedups for the field test of the solute transport model.