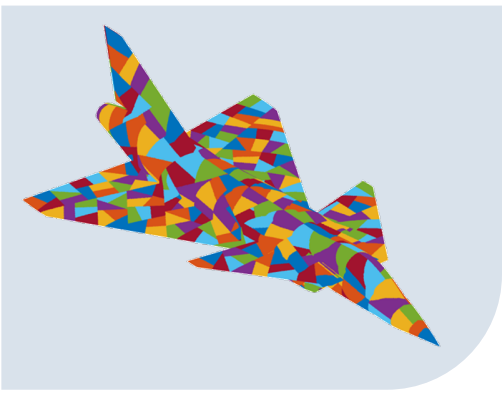
COMPRESSED MATRIX PACKAGE (CMPACK)

ACCELERATES VIRTUAL PROTOTYPING AND DIGITAL ENGINEERING



CMPACK Features

- Significantly faster and more scalable than competing fast-solve libraries
- Compressed matrix build, factor, solve, and multiply
- Modern C++ library featuring automated testing, modularity, and composability
- Fast-update solver for simulations updating only a portion of the geometry
- Supports both symmetric and general matrices
- Novel direct-solve Domain Decomposition Method (DDM)

Quickly and Accurately Predicting Radio Frequency Physics

ARA's CMPACK quickly solves complex matrix systems to accurately predict how radio waves will interact with equipment. CMPACK reduces simulation time from days or weeks to just hours, while preserving a high level of accuracy.

CMPACK accelerates virtual prototyping and digital engineering of everything from fighter jets to commercially available autonomous vehicles. Faster simulations and reduced memory requirements enable exploring millions of potential designs virtually before a physical prototype is ever created.

CMPACK's Scalability and Innovative Algorithms

CMPACK's scalability enables factoring large matrices in record time, whether on individual workstations or supercomputers. For example, using the industry-standard Adaptive Cross Approximation (ACA) algorithm, CMPACK factored a ten million unknown matrix in 12.4 hours on 1,664 cores. In comparison, CMPACK's innovative Domain Decomposition Method (DDM) completed the factorization in just 14.8 minutes.

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