The Basic Linear Algebra Subroutine (BLAS) & C++:
Creating a Simple and Generic Interface Between the Two

The Basic Linear Algebra Subroutine (BLAS) is a highly optimized implementation of the dense linear-algebra on which many algorithms of computational materials science rely. To achieve maximum sustained performance on modern high performance computing architectures, it is essential that implementations make rigorous use of the BLAS Library. We created a simple and generic interface between the BLAS library and codes written in C++, in particular the Ψ-*MAG* toolset for computational magnetism. The C++/BLAS interface facilitates such implementations and is thus expected to have a high impact on the development of computational materials science codes. A program that implements the Ising Model with long range magnetostatic interactions is being written in terms of Ψ-*MAG* components and the C++/BLAS interface in order to demonstrate the usefulness of the interface.

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