

Guest Editors' Note
Special Issue On High-Performance Stencil Computations

This special issue gathers extended versions of several papers presented at the International Workshop on High-Performance Stencil Computations (HiStencils) that was held in Vienna, Austria on January 21st, 2014 in conjunction with the HiPEAC 2014 conference.

This workshop is the first in a new series of workshops intended to address current and upcoming challenges and developments in the area of stencil computations. Today, real-world stencil codes are often hand-tuned which requires a huge amount of engineering effort given the variety of stencil codes in use. Therefore, simplifying the task of constructing stencil codes that deliver high performance has become an important topic in research. HiStencils focuses on stencil computations from embedded environments to exascale computing and advanced software technology needed to simplify the construction of stencils codes delivering high performance. The workshop has been supported by the German Research Fund (DFG) priority programme 1648 "Software for Exascale Computing".

This special issue contains papers dealing with stencils computations from low-level performance optimization and prediction to high-level, domain-specific approaches and advanced software technology which simplify the task of generating high-performance stencil codes.

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