Chisachi KATO LAB.

[Software capable of large-scale simulations and its application to basic and applied research]

Center of Research on Innovative Simulation Software
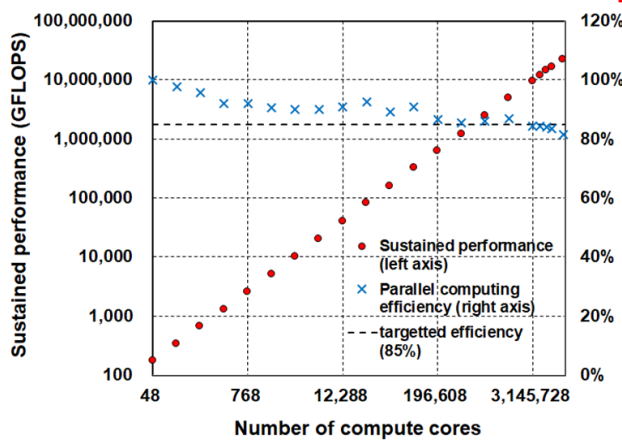
Fluid Flow and Thermal Systems Control
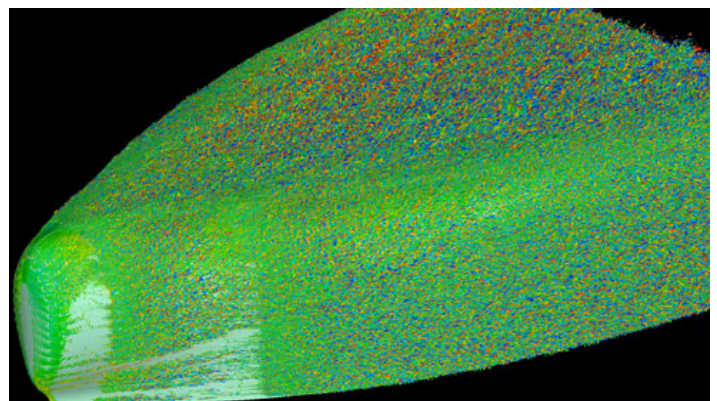
Department of Mechanical Engineering

http://ckatolab.iis.u-tokyo.ac.jp/

Our laboratory is developing two general-purpose LES solvers based on Finite Element method, named FFB, and based on Lattice Boltzmann Method（LBM）, named FFX. FFB has been applied to a number of industrial-flow simulations by using up to 100 billion elements while FFX has a feature of fully automatically generating computational grids for complex industrial flows. FFX is able to use up to 2 trillion grids.
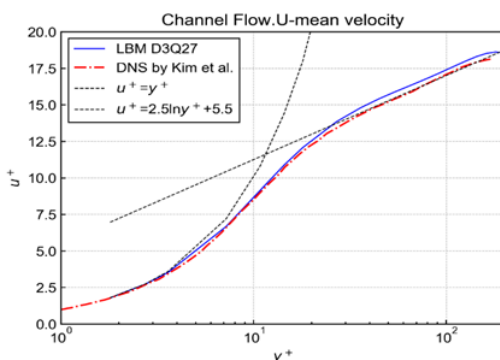
Development of FFB
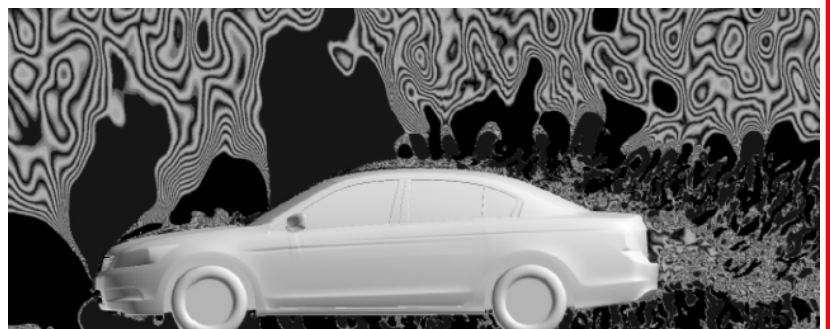

Achieved 22.6 PF on Fugaku

Shiphydro LES（70 bil. elements)

Development of FFX

Channel Flow

Automobile LES（170 bil. grids)

東京大学生産技術研究所