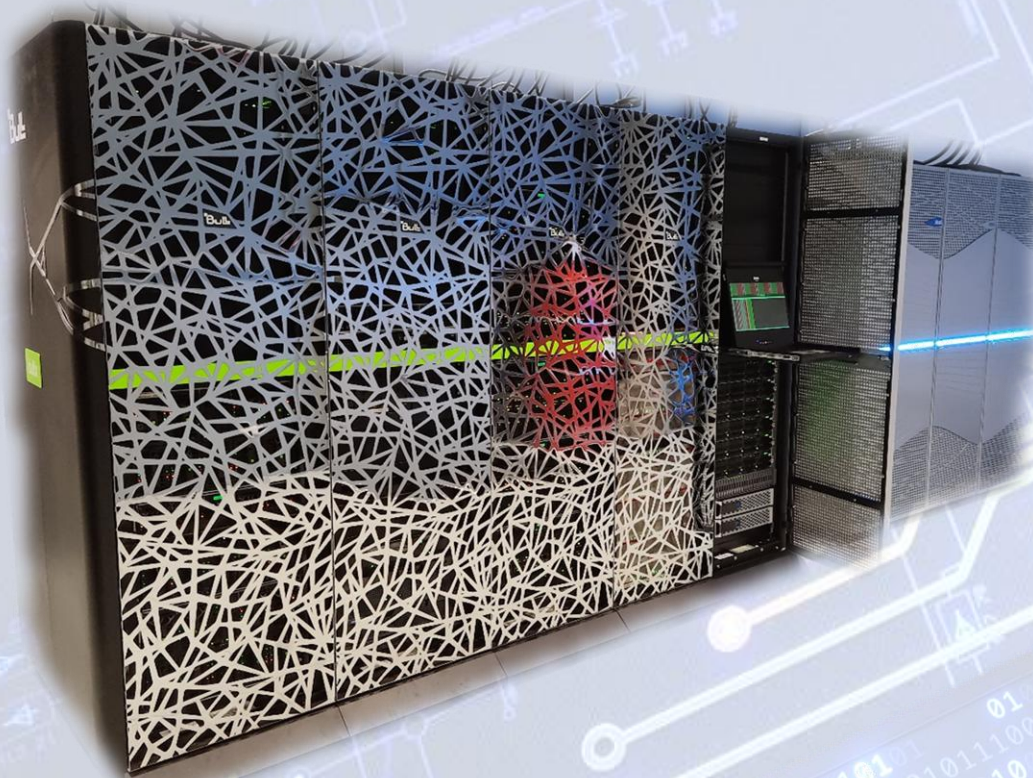




4TH EUROCC VILNIUS HACKATHON & WORKSHOP ON USING HPC



Abstract book

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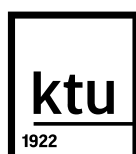
Project Implementers



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Modeling dynamics of open clusters using NBody6

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A problem of dynamical evolution of open star clusters is a complex one as it deals with both internal and external factors. Many, if not most nearby star clusters display signatures of interaction history [1]. To establish possible causes of these signatures we use NBody6 code [2,3], simulating gravitational interaction in systems consisting of up to 10^6 massive particles. This program is well suited for a variety of problems and computational architectures, implementing both CPU and GPU acceleration through parallelization schemes. By computing a model bank, covering a range of interaction between an isolated open star cluster and common Galactic disk objects, including close encounters with molecular clouds and passage of the Galactic plane, we intent to establish dynamical history of several open star clusters, currently located in the Perseus-Cygnus inter-arm region of our Galaxy.

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