LANL Co-Design Summer School

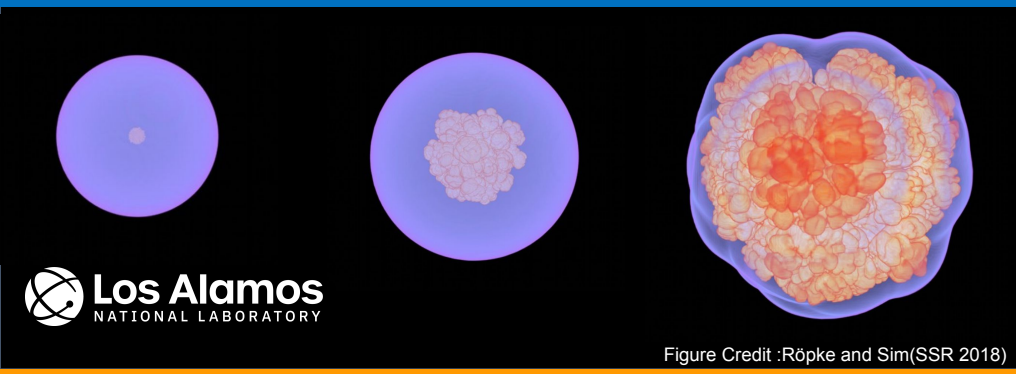


Figure Credit :Röpke and Sim(SSR 2018)

Large Scale Simulations of Burn Front for Type Ia Supernovae

Apply now: codesign.lanl.gov

Deadline: January 6th 2023

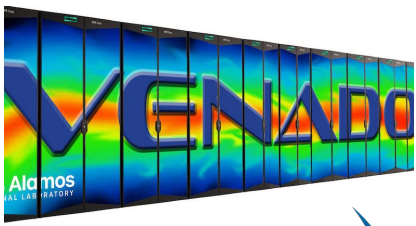
Goal: Simulate the burn front of Type Ia supernovae at a large scale on LANL supercomputer such as the Venado cluster. The team of students will have to tackle several topics in a Co-Design manner to reach this goal. The computer scientists, applied mathematicians and physicists will work together in Co-Design to add the support for reaction network, efficient load balancing, optimize the code and check the convergence properties. As a foundation, the students will use the AMR code: Parthenon. The new Sparsity on the Block feature coupled with the optimizations on the Nvidia H100 architecture will be the key to reach performances for the burn front simulations at scale.

The School: During 10 weeks in the summer, a team of 6 students with multidisciplinary backgrounds will work in a Co-Design manner to reach the school goal.

Salary: $9-12k based on education and experience

Research areas:

Computer Science (HPC),
Astrophysics and Physics,
Applied Mathematics.



Send any questions to cdss@lanl.gov

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