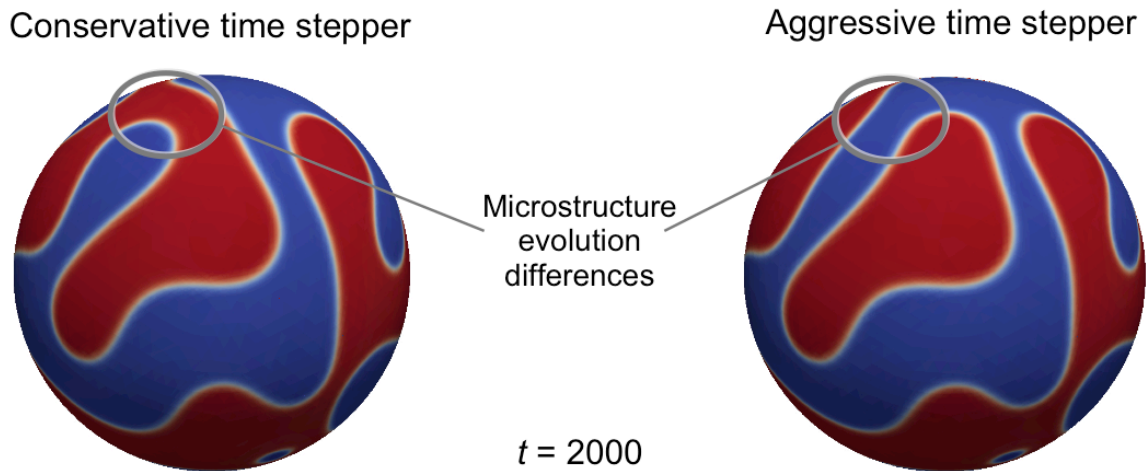


Benchmark Problems for Numerical Implementations of Phase Field Modeling

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Caption: Figure 1 Snapshot of the microstructure evolution for spinodal decomposition on the surface of a sphere. The figure illustrates differences obtained with different time steppers at a snapshot in time: the left figure is generated using a conservative time stepper, and the right figure an aggressive time stepper.

Scientific Achievement

We presented the first set of benchmark problems for phase field modeling. These problems grew out of the workshops on phase field modeling that we have held. The final problems were constructed with based on feedback from the workshops.

Significance

It is expected that these benchmark problems will be a significant resources for developers of phase field codes – the problems are already being used in college courses (Mike Tonks at Penn State).

Citation

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