

Toward Bi-directional In Situ Visualization and Analysis of Blood Flow Simulations With Dynamic Deforming Boundaries

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Summary:

We present some preliminary work toward bi-directional in situ visualization and analysis of blood flow considering blood cell suspensions and dynamic moving walls to mimic the clot growth process. The work is implemented through integrating multiple open source packages including fluid flow solver, blood cells, and in situ visualization and analysis. It shows that in situ visualization enables us to examine and process the simulation results without writing data to files. In addition, preliminary results on bidirectional steering (still in progress) can accelerate engineers to explore the complicated stress environment experienced by clots of different sizes.

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