Filtering for Visualization
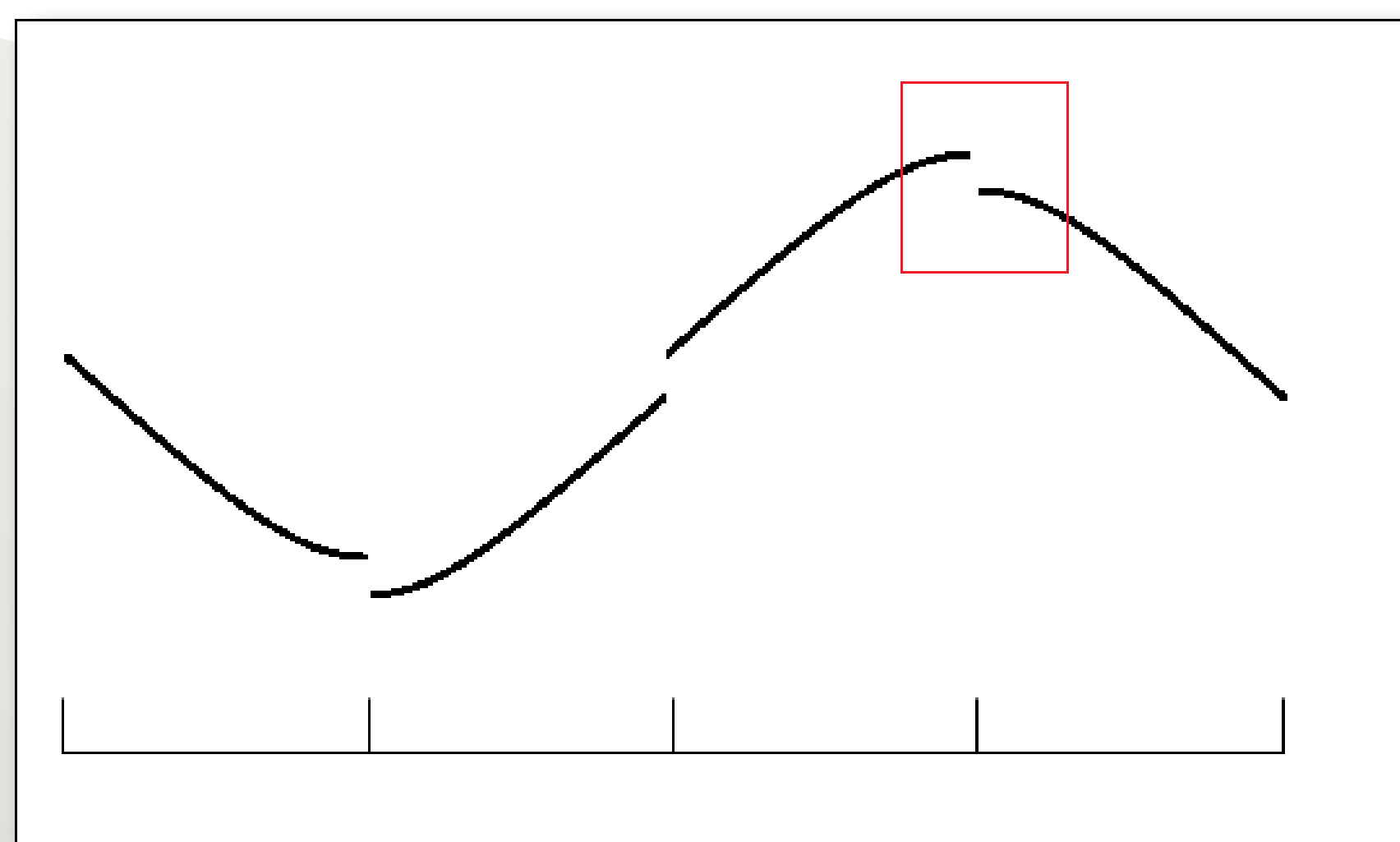
Hanieh Mirzaee[1], Jennifer K. Ryan[2], Robert M. Kirby[1] - [1]University of Utah, [2]Delft University of Technology
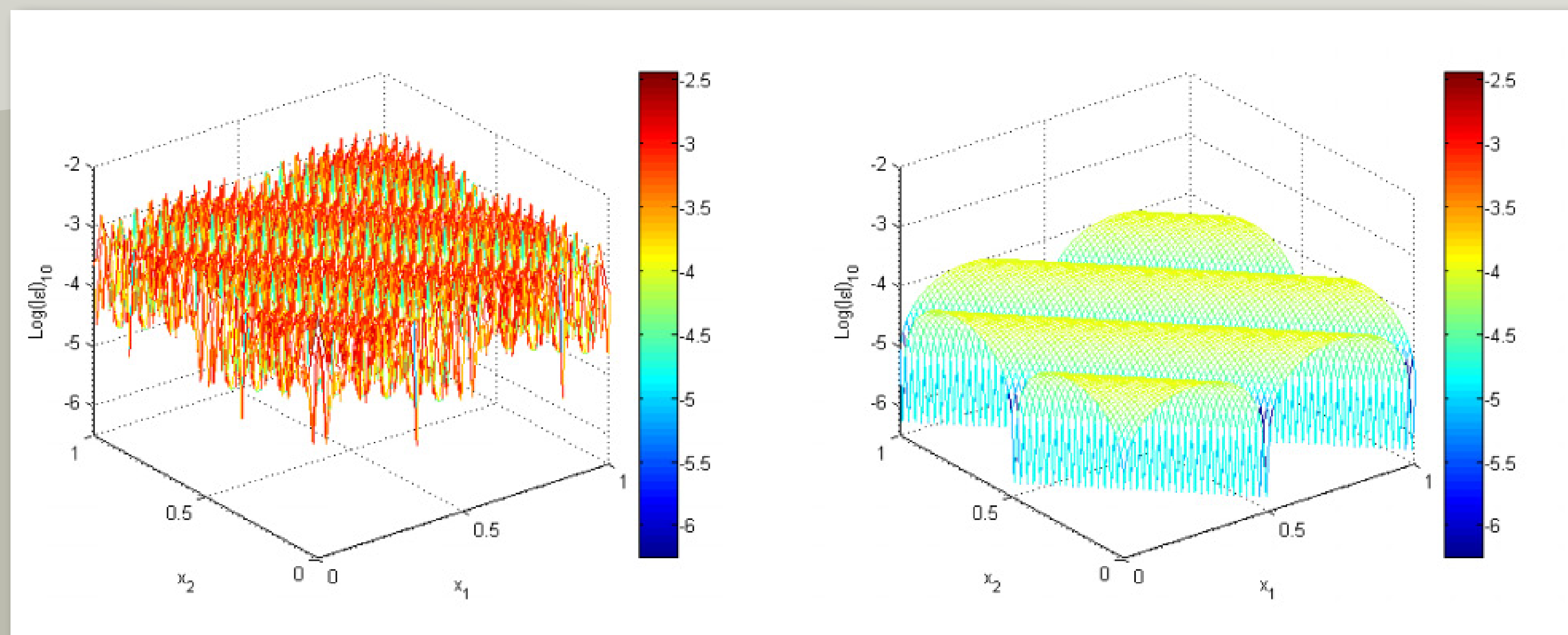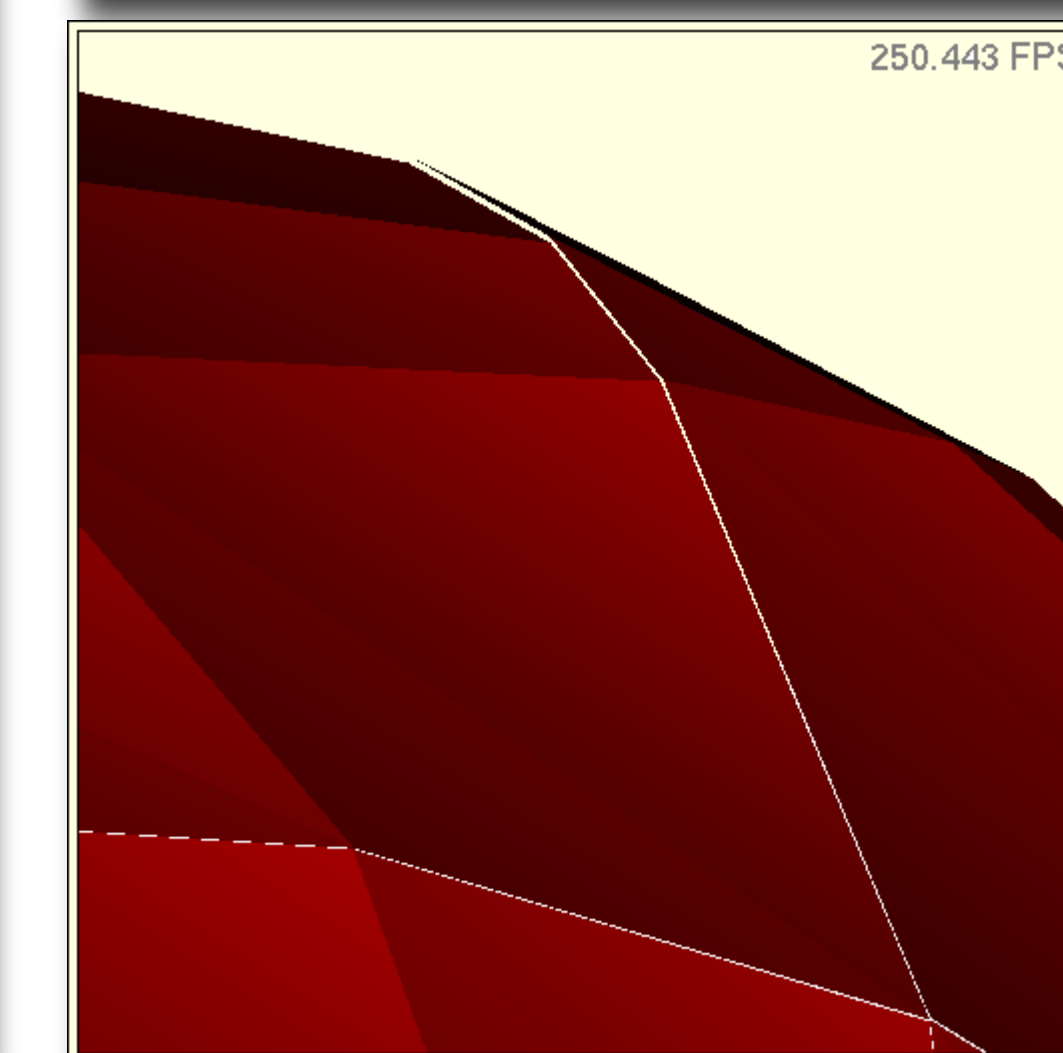
Model problem and solution:
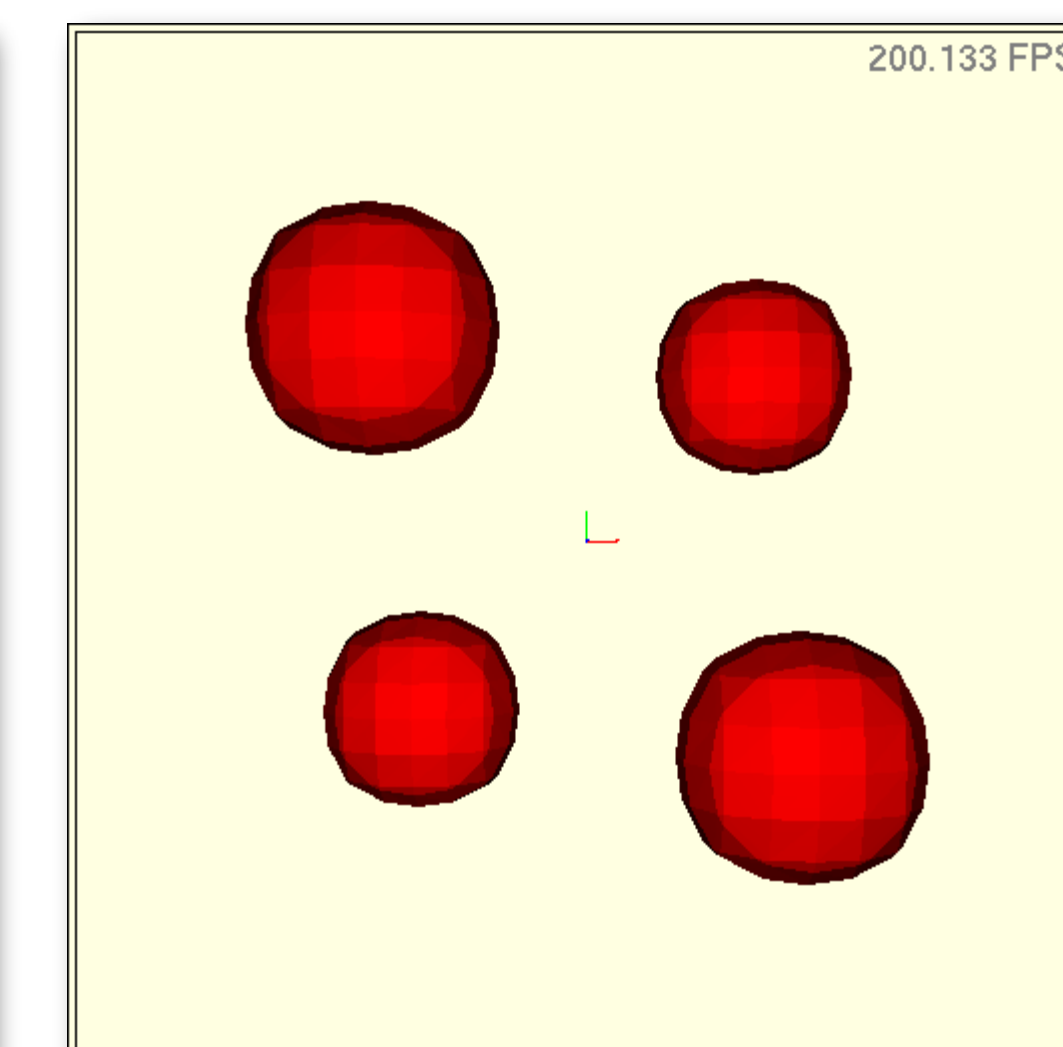
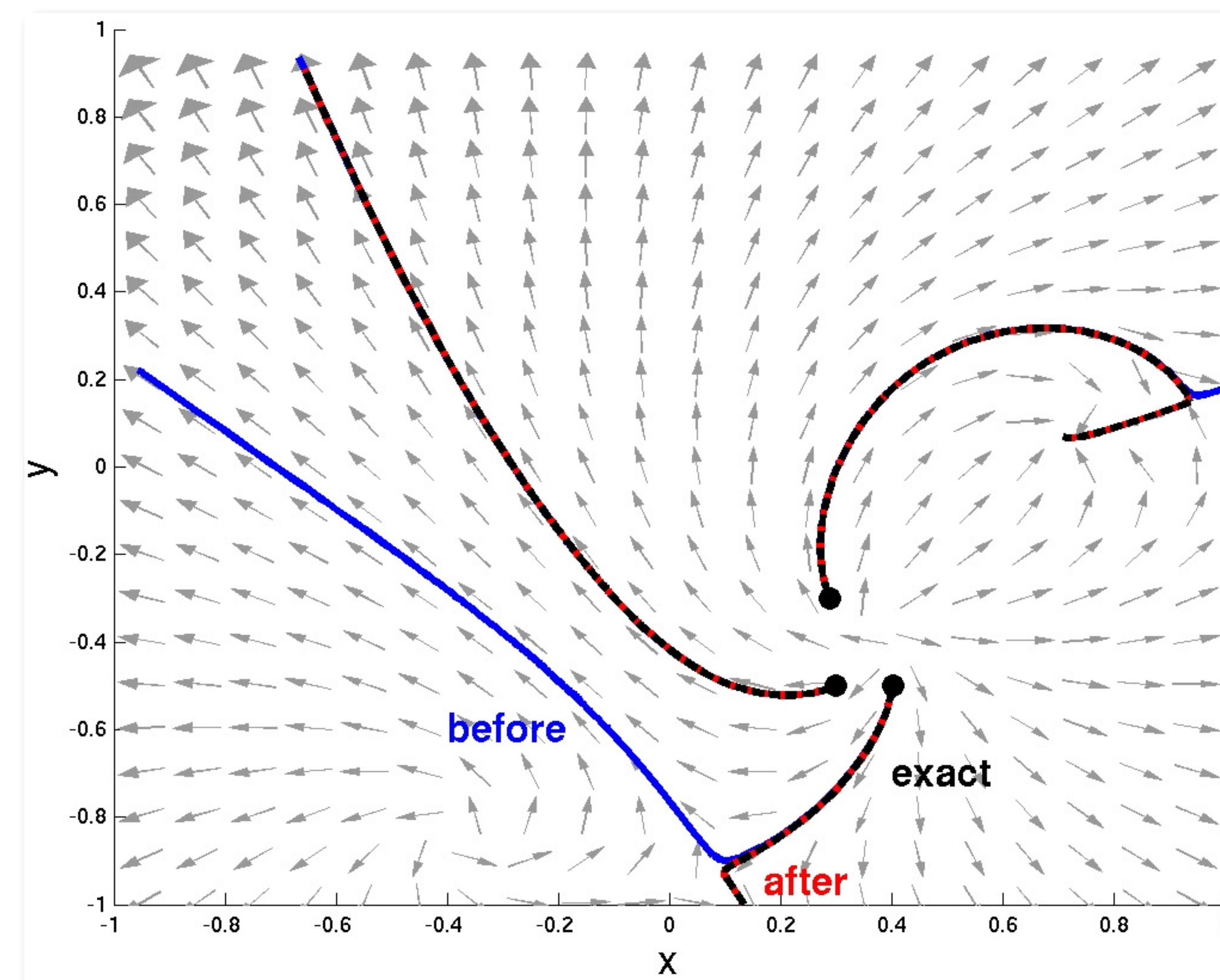- Discontinuous Galerkin (DG):
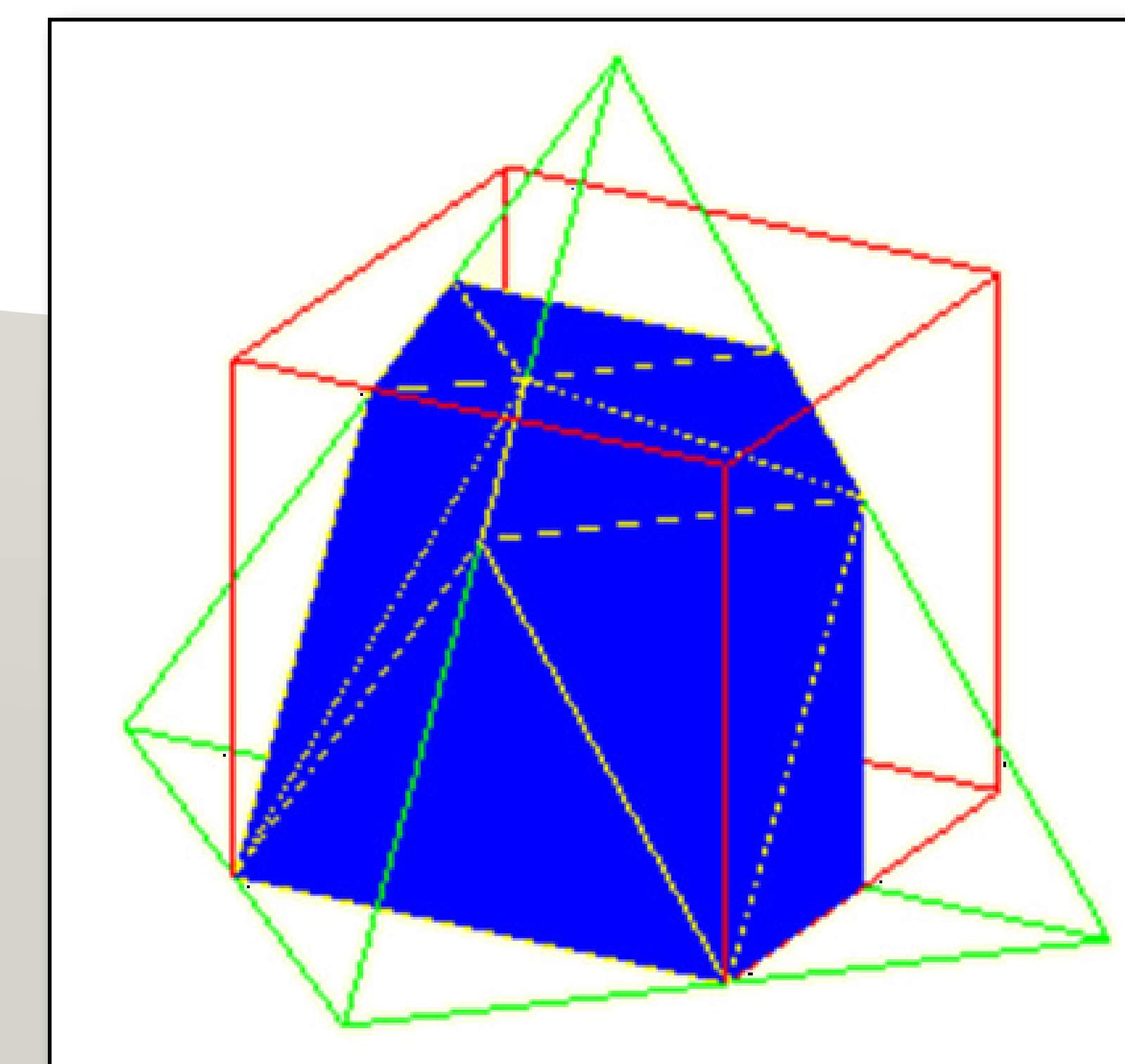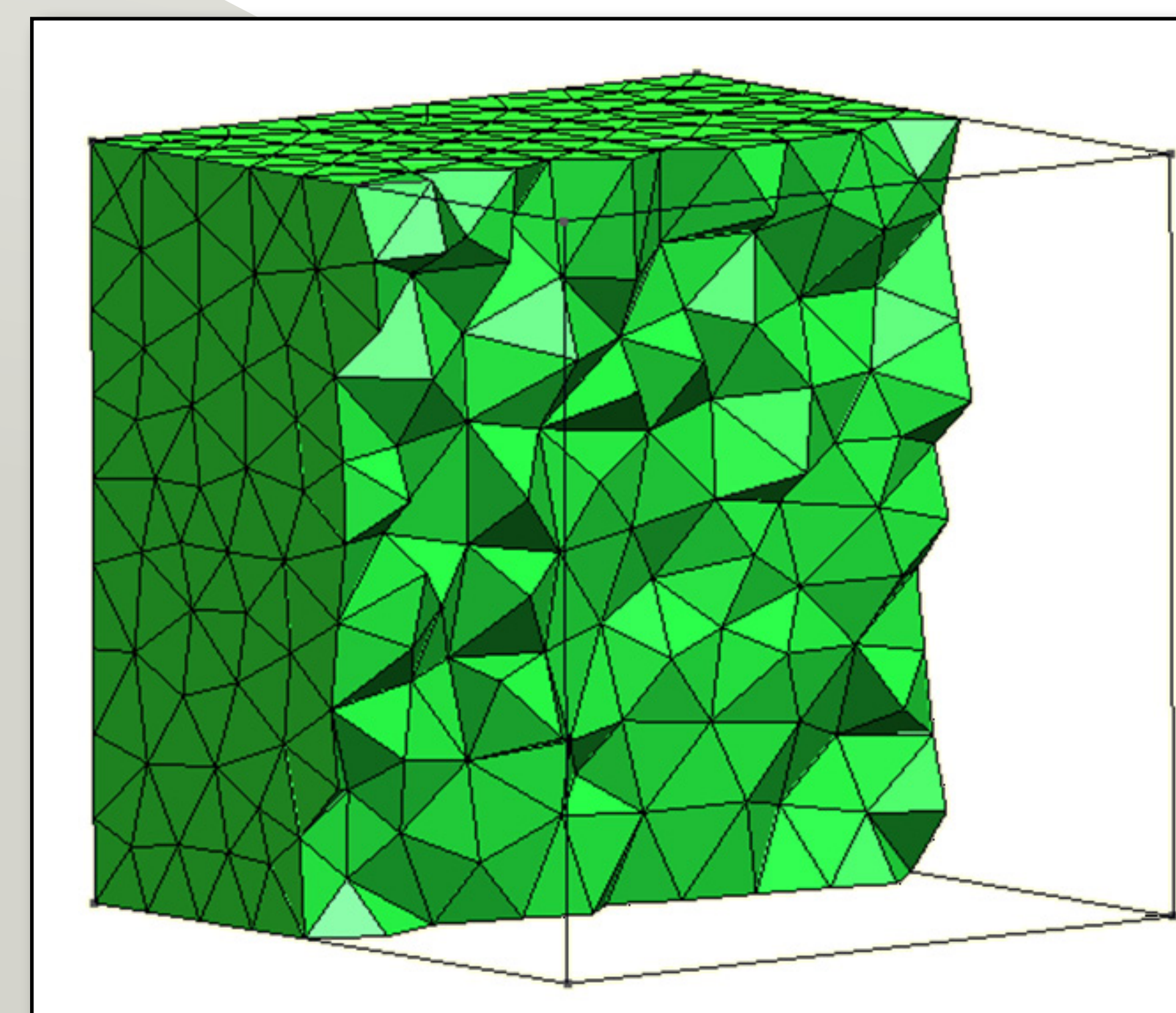
$$u_t + u_x = 0$$

- Flexible
- High Order
- CFD & electromagnetic

Filtering:

$$u^\star(x) = \int_\Omega K(x)u(x)dx$$

Potential difficulties:

Unstructured Meshes

Reference:
Mirzaee, H., Ji, L., Ryan , J.K., Kirby, R.M. "Smoothness-increasing accuracy-conserving (SIAC) post-processing for discontinuous Galerkin solutions over structured triangular meshes." SIAM J. Num. Anal. 49, 1899-1920 (2011)

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