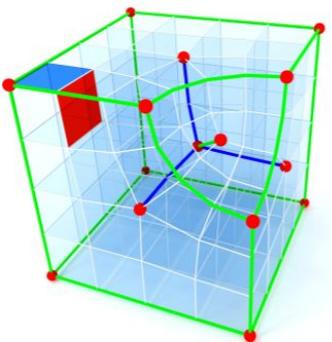


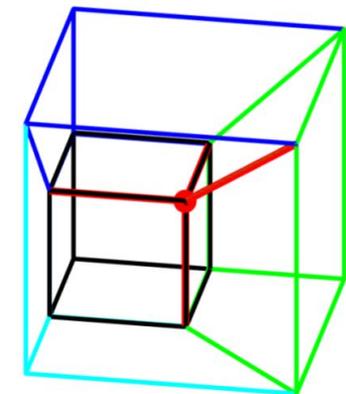
# Tri-variate $C^1$ elements on curved domains

NIH EB018625

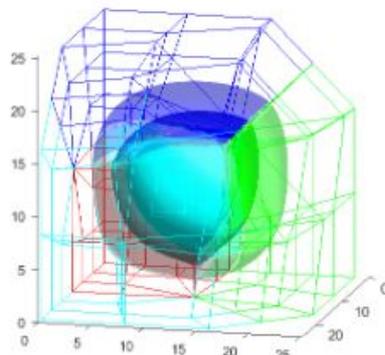
Jorg Peters, U Florida



Singularity-Constrained Octahedral  
Fields for Hexahedral Meshing

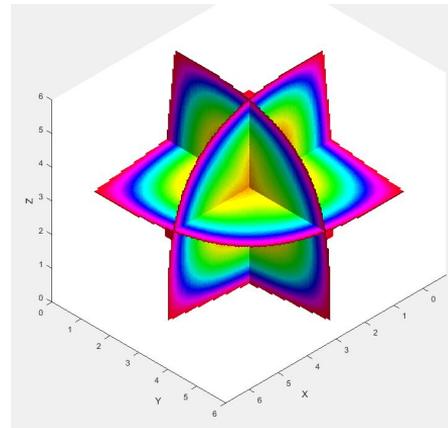


box-complex  
(unstructured  
hex-mesh)



(b) BB-net and level sets

Tri-variate  $C^1$  spline  $x$



Solve on **curved domain**  $x$ :

4th order Cahn-Hilliard, phase  
flow, Navier ST-Korteweg

here:  $\Delta_{\xi}(u \circ x^{-1}) = 1$  by collocation