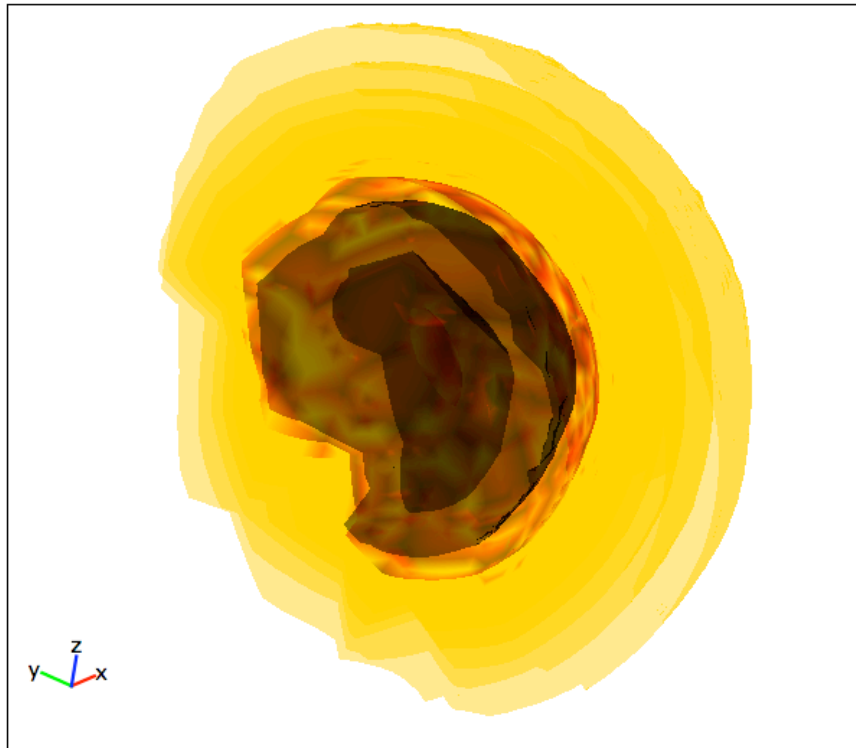


Cell fraction $th > 0.9$ after 2 days (initial $th_0 = 0.5$, homogeneous)



An Introduction of COMSOL: a Finite Element Package

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COMSOL is a powerful Finite Element solver that exploits the benefits of the weak form formulation of partial differential equation (PDE) problems with Neumann, Dirichlet and Robin (mixed) boundary conditions. In order to illustrate the potential applications and advantages of this software in Applied Mathematics research, an introductory analysis of the underlying mathematical architecture of this package is presented, along with a brief on-site demonstration of problem definition, implementation and post-processing protocols in the COMSOL environment using a one-dimensional multiphasic tissue mechanics model for tumor capsule formation previously presented by Lubkin and Jackson (*J. Biomech. Eng.*, 2002) as an illustrative example, along with additional post-processing items created with COMSOL for other models.