

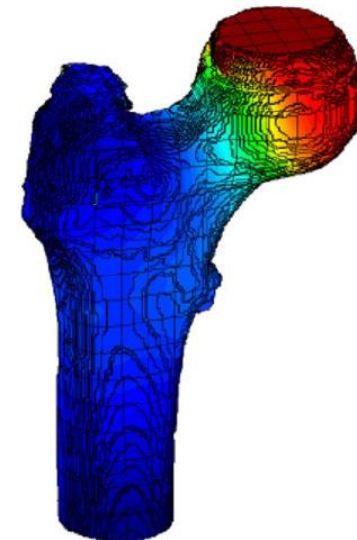
Error Estimation for the Finite Cell Method (FCM)

Project Characteristics

Modeling: ★★☆☆☆
Mathematics: ★★☆☆☆
Programming: ★★★★★

Setting:

- The FCM is a powerful embedded domain method based on high order finite elements.
- An error estimator is a tool able to estimate the local quality of the discretization and to drive adaptivity.



Your Tasks:

- Extend the current C++ implementation of the error estimation in the Finite Element Software AdhoC++ to the FCM method.
- Analyze the quality and performance of the error estimator on various examples.
- Optimize the current implementation.
- (Investigate additional types of estimators.)