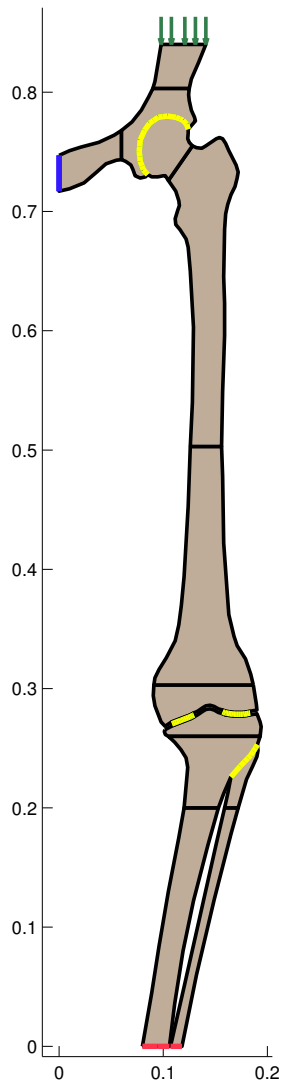


NUMERICAL RESULTS

Example 1



► Material parameters (Young's modulus E and Poisson's ratio ν):

- * Bone: $E = 1.71 \times 10^{10}$ [Pa], $\nu = 0.25$
- * Cartilage $E = 0,492 \times 10^9$ [Pa], $\nu = 0,1$

► Boundary conditions:

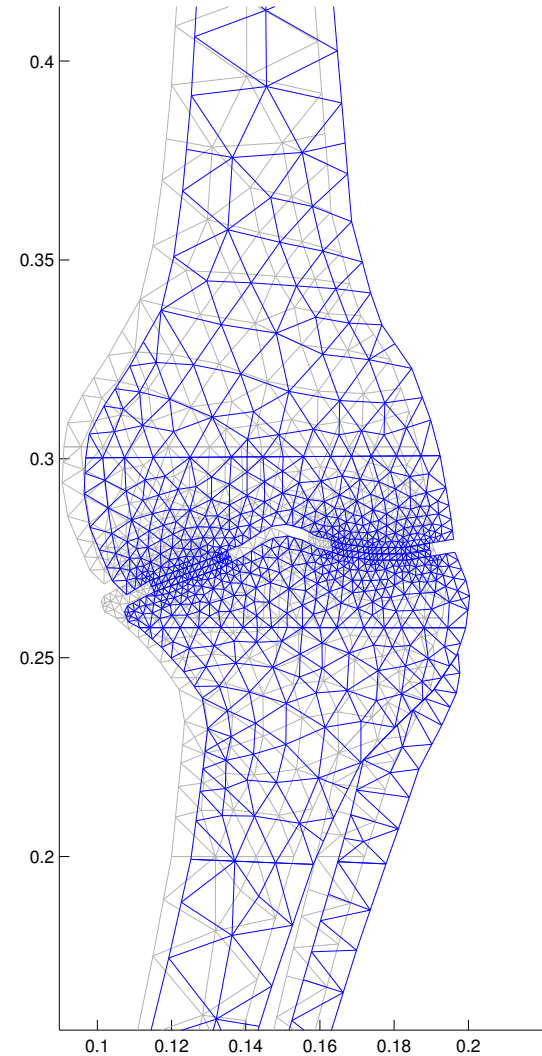
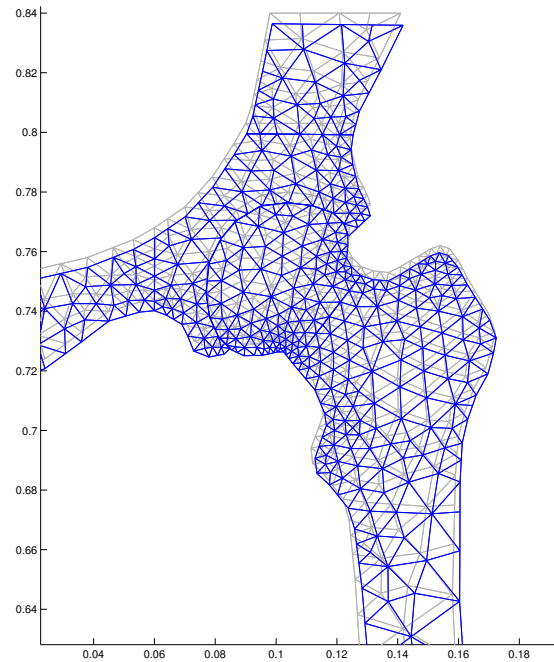
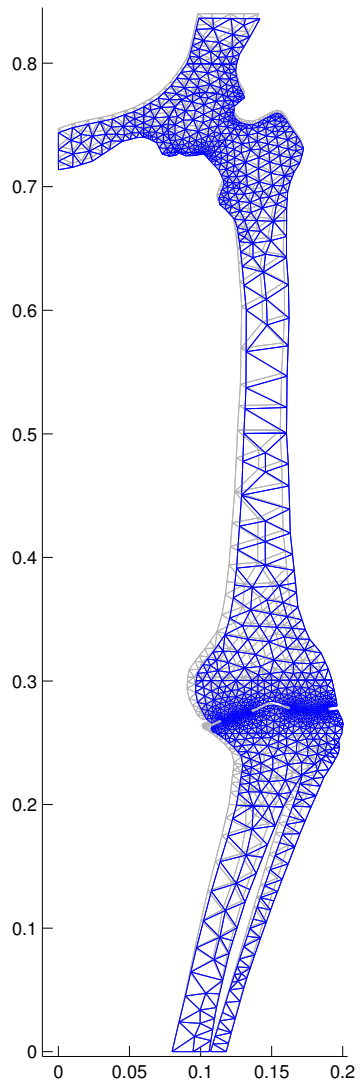
- * Loading 0.215×10^7 [Pa] on the top part (green color)
- * The tibia and the fibula are fixed (red color)
- * Unilateral contact boundary (yellow color)
- * Bilateral contact boundary (blue color)

► Discretization statistics:

- * 16 subdomains of domain decomposition
- * 1436 nodes
- * 2137 elements

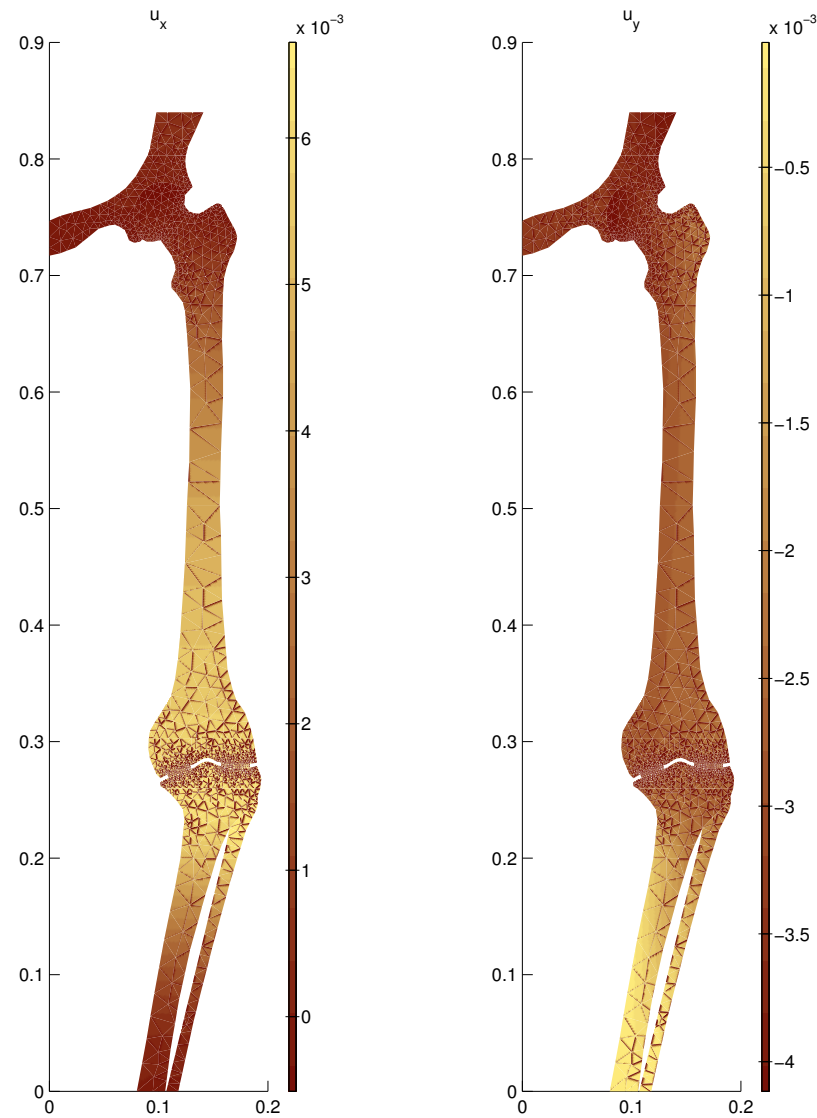
NUMERICAL RESULTS

The deformations



NUMERICAL RESULTS

The horizontal and vertical component of displacements



NUMERICAL RESULTS

The detail of principal stresses ($\rightarrow\leftarrow$ represents compression and $\leftarrow\rightarrow$ extension)

