

Figure 1: In situ tensile test

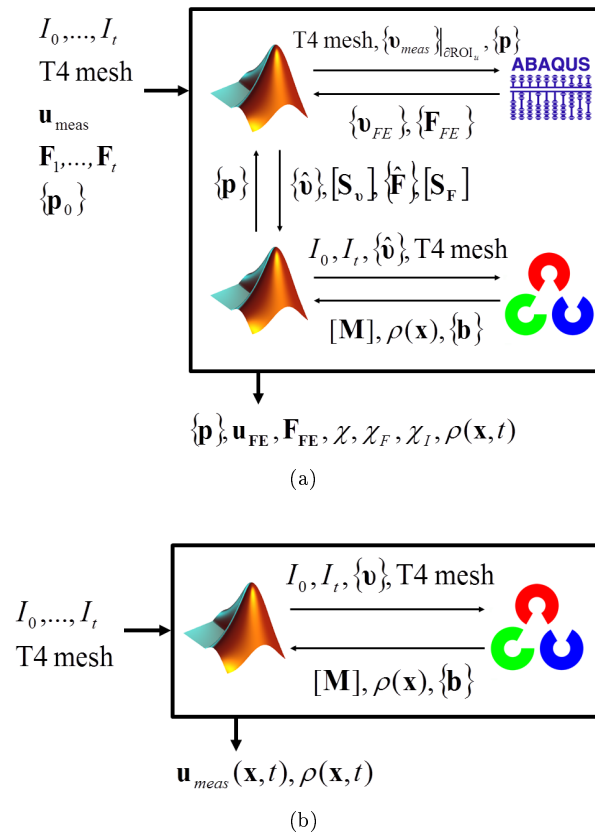


Figure 2: Numerical implementation

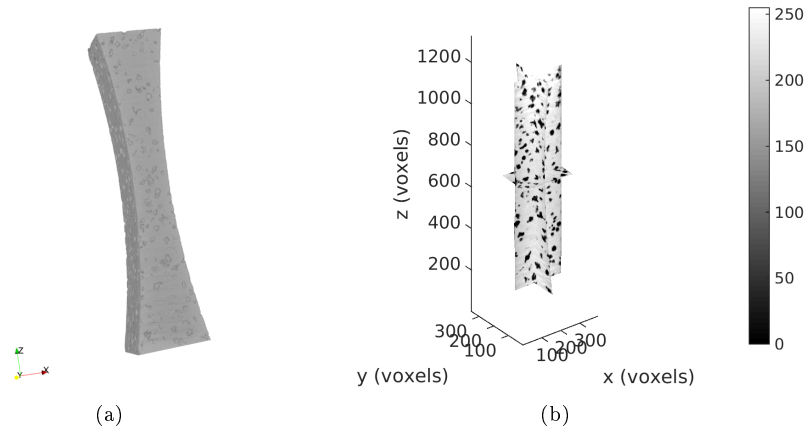


Figure 3: Reconstructed volume in the reference configuration

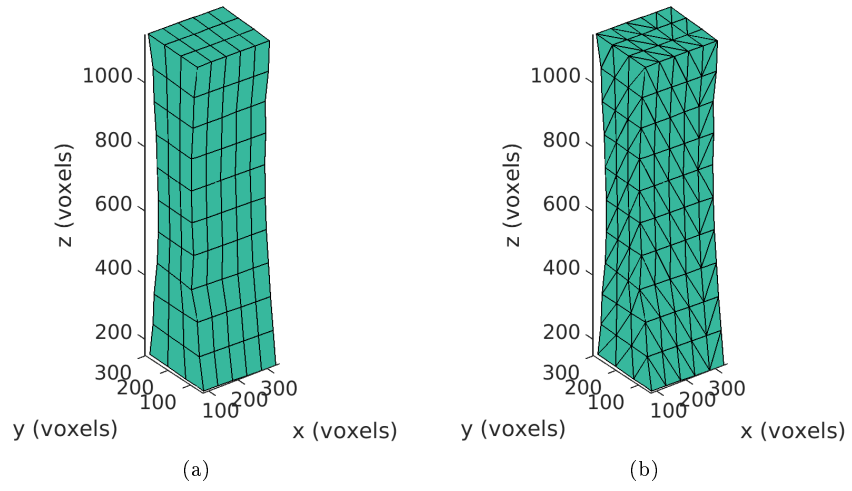


Figure 4: H8 and T4 meshes for a density of 1

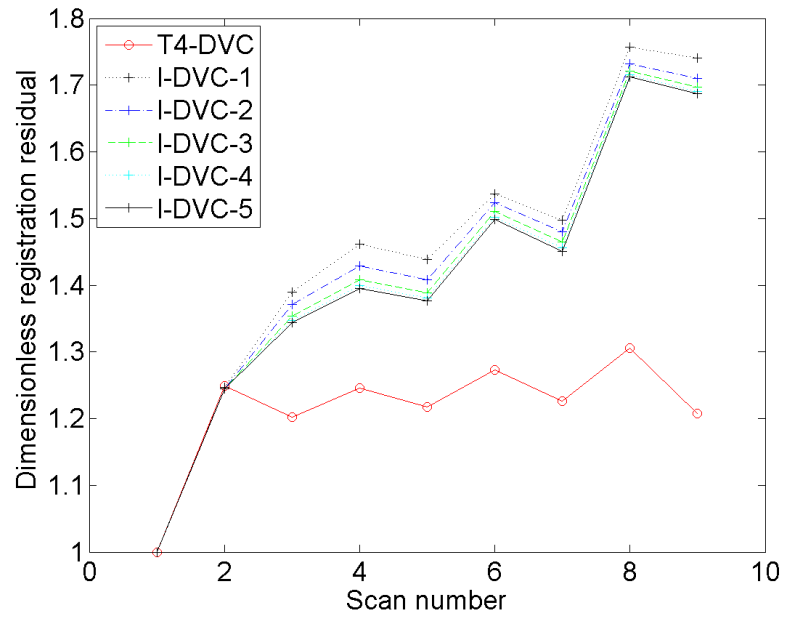


Figure 5: Dimensionless registration residuals for T4-DVC and I-DVC analyses

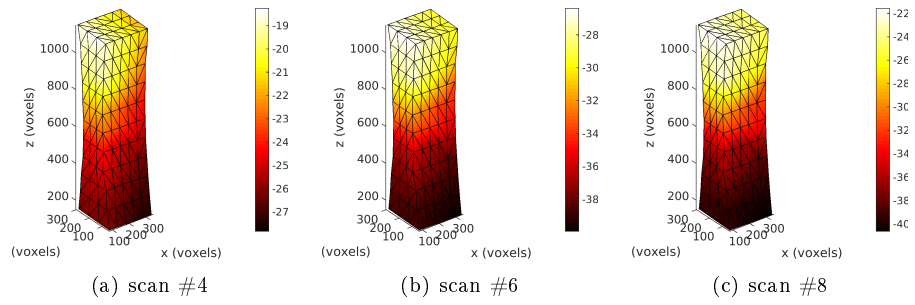


Figure 6: Longitudinal displacement fields measured via T4-DVC

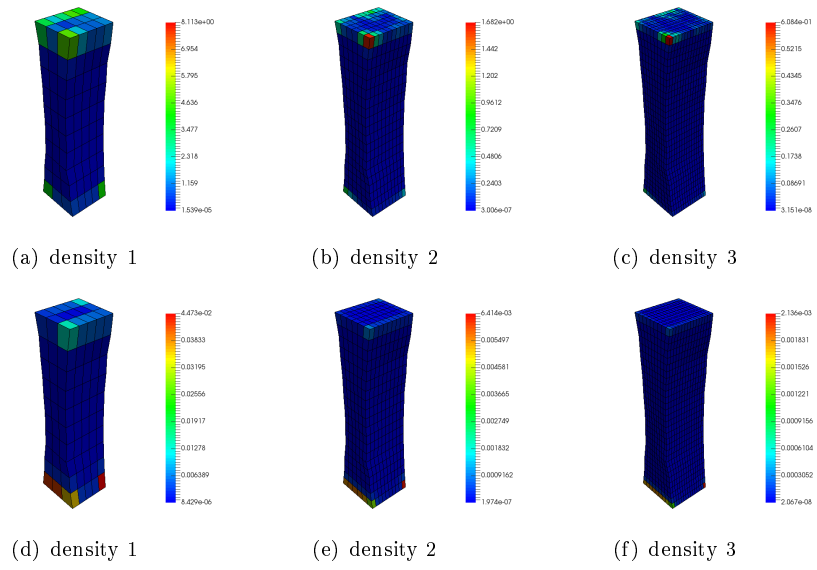


Figure 7: Effect of mesh density and type of boundary conditions on local errors

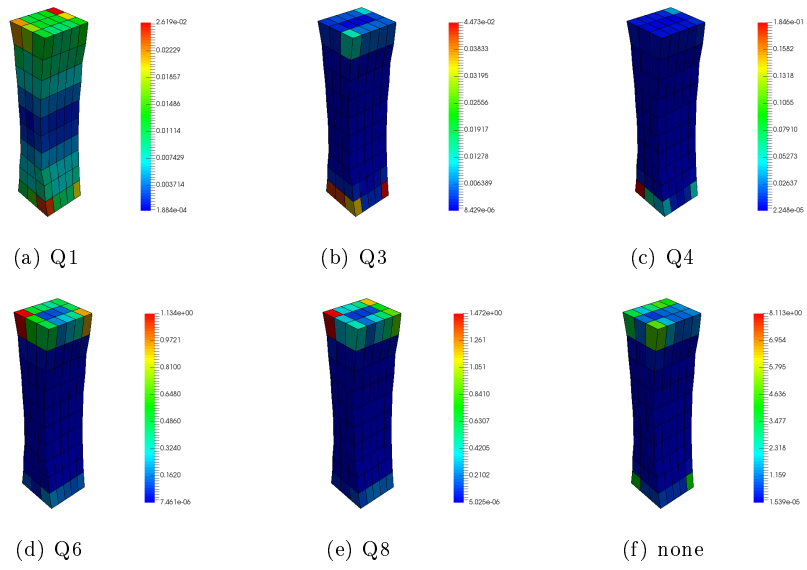
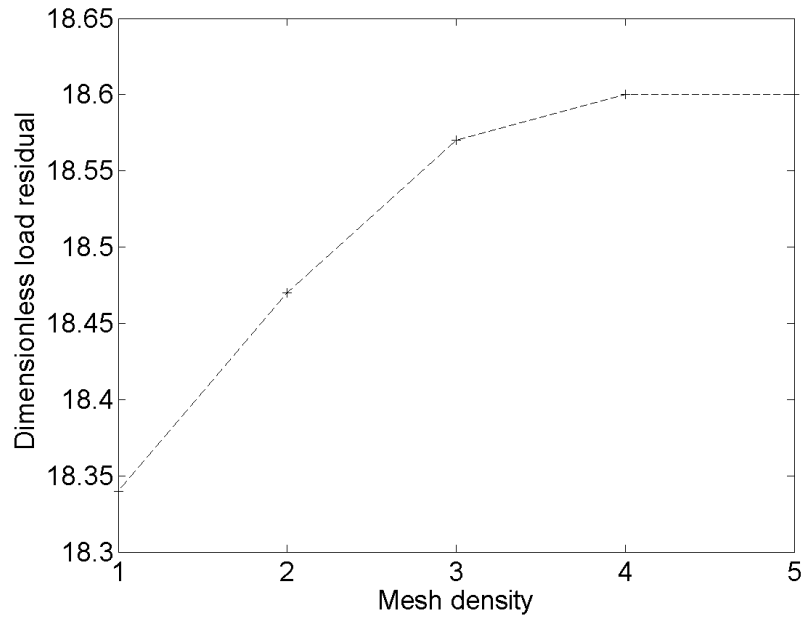
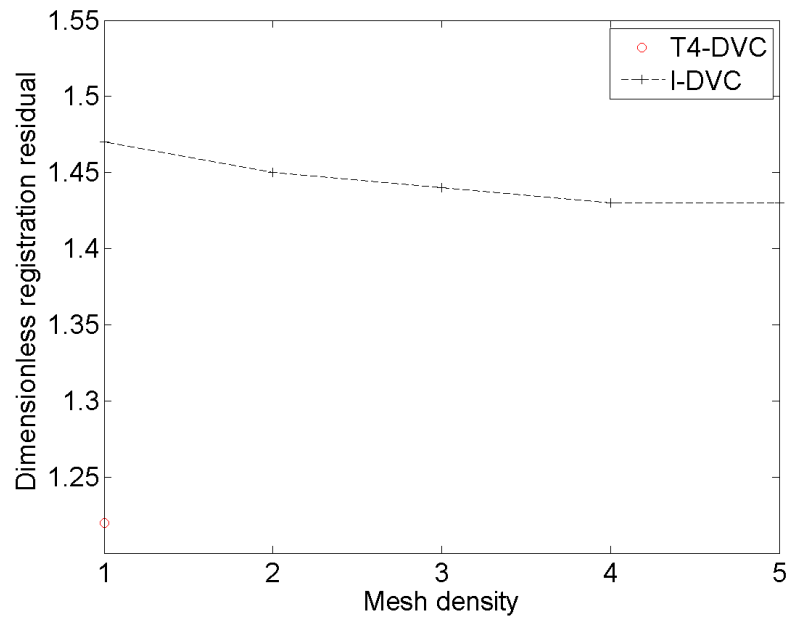


Figure 8: Effect of boundary condition interpolations on local errors

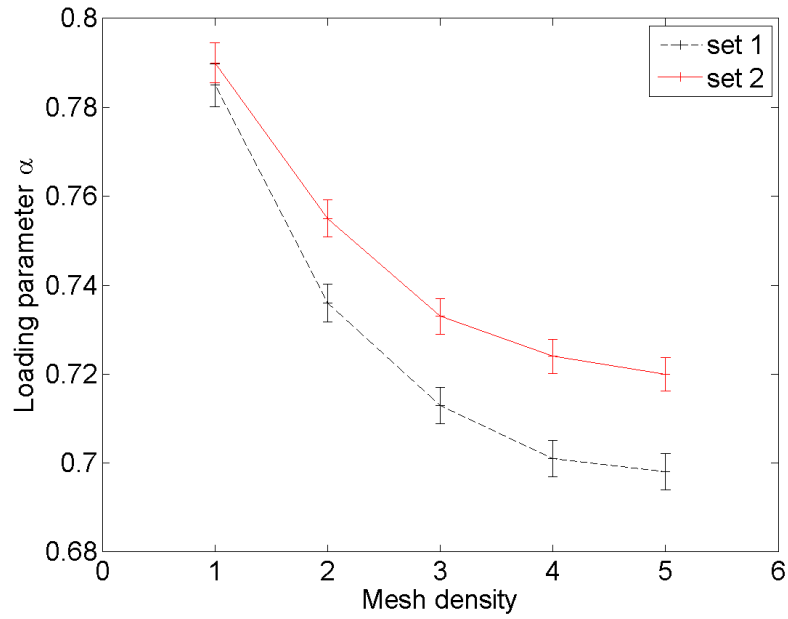


(a) χ_F

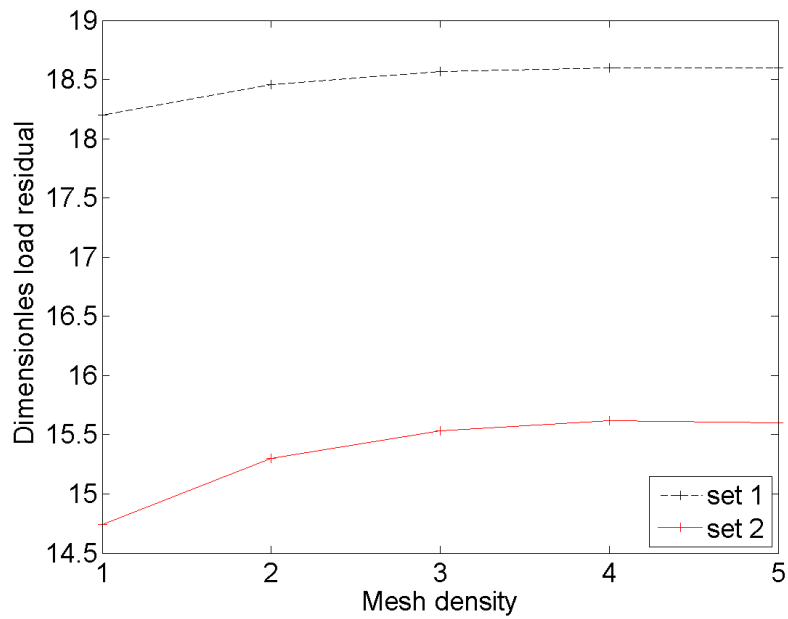


(b) χ_I

Figure 9: Effect of mesh density on I-DVC results

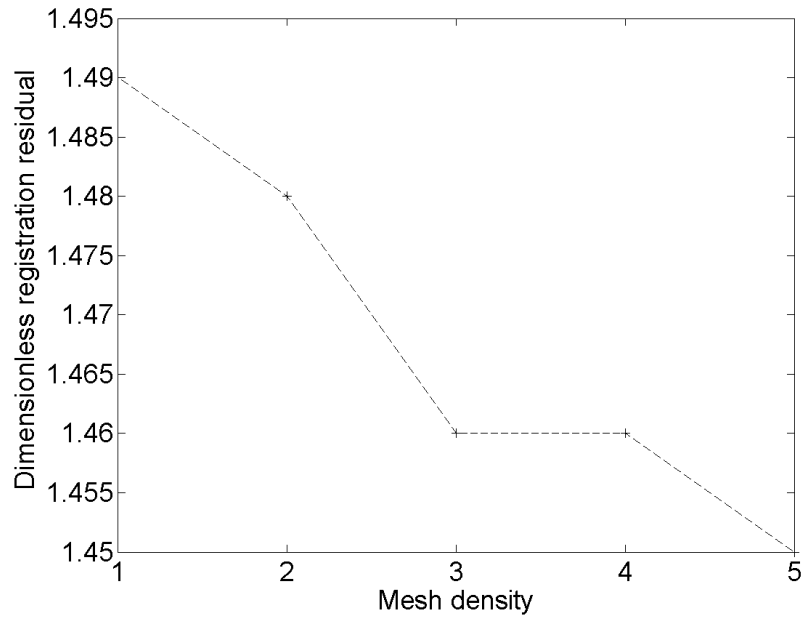


(a) α

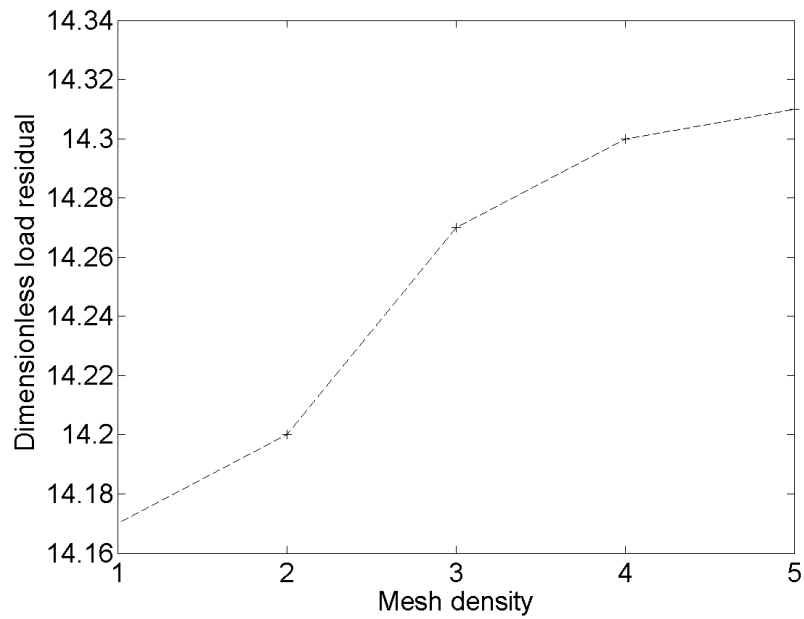


(b) χ_F

Figure 10: Values of α and χ_F for two different sets of parameters and five mesh densities



(a) χ_I



(b) χ_F

Figure 11: Identification results for five mesh densities

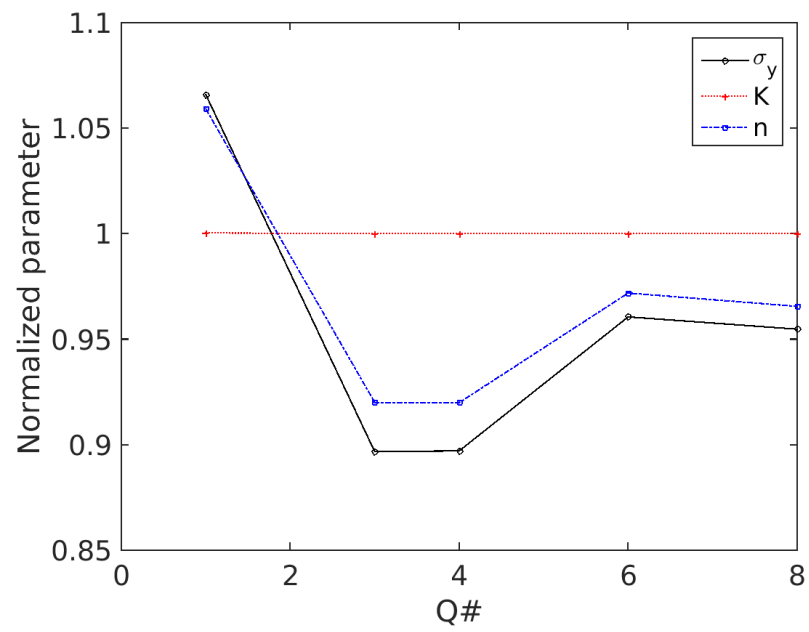


Figure 12: Effect of the interpolation of the Dirichlet boundary conditions on the identified material parameters

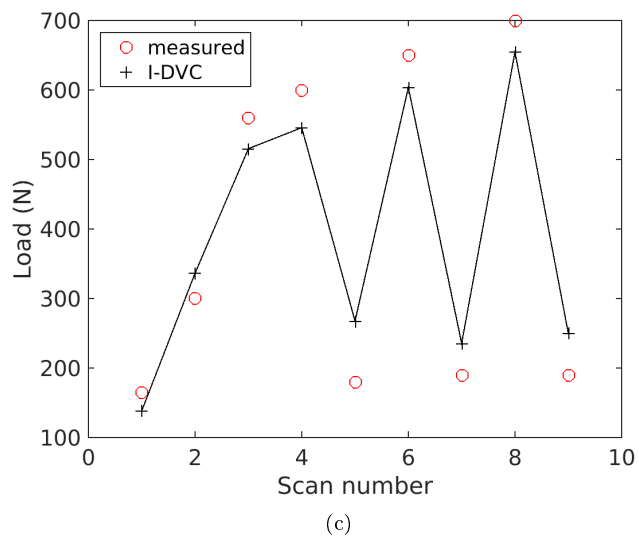
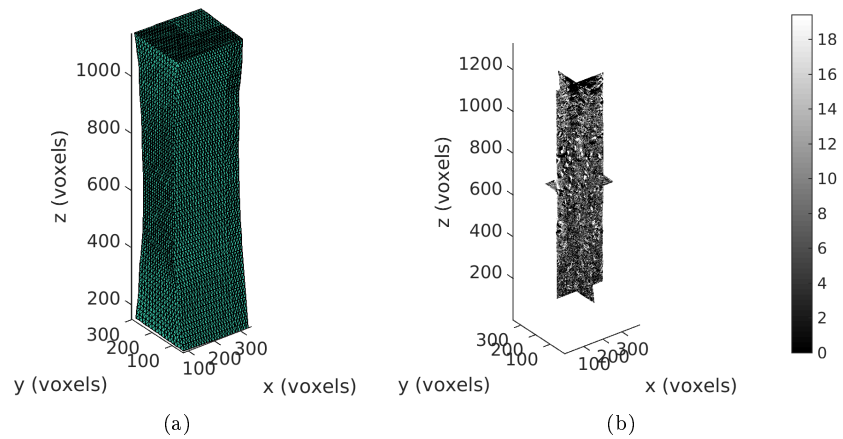


Figure 13: Identification results via 4D registration