Field-Shape Imperfections of the CERN-LHC Dipoles arising from Mechanical Deformations and Component Tolerances, R. BARTOLINI, P. FESSIA, W. SCANDALE, CERN - The stability of the geometry of the superconducting coils is essential to the field homogeneity of the LHC dipole magnets. Mechanical stresses during coil assembly, thermal stresses during cool-down and electromagnetic stresses during operation are the source of deformations of the coil geometry. Additional sources of field-shape errors are the dimensional tolerances of the magnet components and of the manufacturing and assembly tooling. To provide a realistic evaluation of the field-shape imperfections of the LHC dipoles arising from the above effects, appropriate finite-element computations were carried out to model the dipole cross-section in presence of stresses and a first statistical simulation of the effect of the manufacturing tolerances was performed as well.