Session: Mechanics of materials

Target presentation: Oral

Towards tools for characterizing patient-specific mechanical behavior of the *in vivo* skin

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Skin is the first interface of human body with its environment. The behavior knowledge of human skin is of major interest for disease diagnosis, surgeries optimization, substitutes design…The human skin is a non-homogeneous multilayers composite material and its response to mechanical loadings depends on its behavior law and on the patient-specific parameters. Predicting this response presents a high challenge due to the anisotropic, the viscoelasticity and the natural pretension state of the human skin *in vivo*. Some characterization tools have been developed as well as a mechanical analysis based on materials science engineering. The mechanical device has been completed by an imaging module in order to identify the displacement fields of the skin surface by means of Digital Image Correlation.