**Modeling and Finite Element Analysis of Knee Prosthesis**

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**Abstract** :

Biomechanics is the study of the structure and function of biological systems by means of the methods of “mechanics” which is the branch of physics involving analysis of the actions of forces. Knee joint is the complex structure of the human body acquires the critical loads in various moving conditions. This paper presents the loads acting on the joint during different motions such as steady, walking and stair climbing. A 3d modeling software PRO/E is used to prepare a CAD model of knee prosthesis and evaluate the results in the form of stresses by applying the calculated loads in the finite element analysis software ANSYS. The stresses are also evaluated by considering several cases of loading.