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FEM Analysis of a Low Cost 3D Printed Tibial Prosthesis Model with ANSYS

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Abstract: This article will discuss the results found after making a structural analysis of a proposed prosthetic leg designed for a future 3D printing. Although the concept of 3D printing dates back to the 1980s, with the emergence of rapid prototyping as a form to lower costs, personal 3D printers were introduced to the public market around 2012. The massive success 3D printers have achieved has only helped the industry by lowering the costs of production and acquisition. Nowadays, 3D printing is becoming such a common technology that schools all over the globe are acquiring these printers for their students to make them realize of the potential those printers have. The aim of this article is to propose a simple design of a prosthetic leg that can be easily available for its readers, in order to provide them a much cheaper solution compared to the prostheses that are commonly made.

Keywords: ABS, 3D printer, Prosthesis Tibial