Tolerance stack analysis has become a very important phase during the design stages of a product as it helps designers to keep manufacturing cost down by not having to tighten design and manufacturing tolerance limits unnecessarily, while at the same time achieving the aim of ensuring assemblies and sub-assemblies remains interchangeable, with no rework or deviations of any form arising. Based on the tolerance design database, the system developed by this thesis contains five main modules and several subsidiary programs. These modules are (1) feature extraction module, (2) tolerance specification extraction module, (3) fitting assignment module, (4) Tolerance Network construction module, and (5) tolerance analysis interface.

Keywords: tolerance; Tolerance Network; feature; assembly

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