

Abstract :

Nowadays, rapid technological progress influences the dependability of equipments and also causes rapid obsolescence. The mechatronic and electronic equipment components are mostly affected by obsolescence. A new challenger unit possesses identical functionalities, but with higher performances. This work aims to find the optimal number of components which should be replaced by new-type units, under budgetary constraints. In this work, the new challenger unit is characterized by lower energy consumption and the optimization steps are based on genetic algorithm (GA). The result shows the importance of this type of replacement in order to economize energy consumption and to deal with obsolescence.