Abstract :

In this paper, we present an optimization approach to deal with technological obsolescence in the case of several components. A component becomes obsolete when a challenger unit is available and possessing the same functionalities, but with more recent performances. The proposed approach includes the costs, failures rates, replacement teams, aging, energy consumption and the increasing technology rates. The budget constraint is formalized to select the components should be replaced and the model is based on cuckoo optimization algorithm (COA).