بيانــات البحــث رقم (3) المقــدم للترقيــة

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عنوان البحث باللغة الانجليزية	**Optimal load scheduling of household appliances considering consumer preferences: An experimental analysis**			
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ملخص البحث باللغة الإنجليزية:

This paper discusses an experimental study of the home appliances scheduling problem that incorporates realistic aspects. The residential load scheduling problem is solved while considering consumer's preferences. The objective function minimizes the weighted sum of electricity cost by earning relevant incentives, and the scheduling inconvenience. The objective of this study is five-fold. First, it sought to develop and solve a binary integer linear programming optimization model for the problem. Second, it examined the factors that might affect the obtained schedule of residential loads. Third, it aimed to test the performance of a developed optimization model under different experimental scenarios. Fourth, it proposes a conceptual definition of a new parameter in the problem, the so-called "flexibility ratio". Finally, it adds a data set for use in the literature on the home appliance scheduling problem, which can be used to test the performance of newly-developed approaches to the solution of this problem. This paper presents the results of experimental analysis using four factors: problem size, flexibility ratio, time slot length and the objective function weighting factor. The experimental results show the main and interaction effects, where these exist, on three performance measures: the electricity cost, inconvenience and the optimization model computation time.