Incorporating Domain Knowledge into the Optimization of Energy Systems

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1. Diversity maximization

2. results

In this section we compare the results obtained by smart initialization (SI) technique proposed in the paper and our newly proposed technique which we called diversity maximization (MD).

The figure shows that the proposed technique has very similar results for all indicators. Table 1 also supports the fact that the the samples are statistically insignificant. There we can conclude that these two technique produce very similar results. However, time consumption of proposed technique is very good (see Table 2).

Table 1: Mann-Whitney U-tests: p-values for different metrics when comparing our smart initialization (SI) with the siversity maximization (DM).

	p-value	
Evaluation metrics	Compare NSGA-II: With SI and DM	Compare SPEA2: With SI and DM
HV	0.4147	0.5229
IGD	0.2861	0.9824
Epsilon	0.2843	0.433
Spread	0.6865	0.1774

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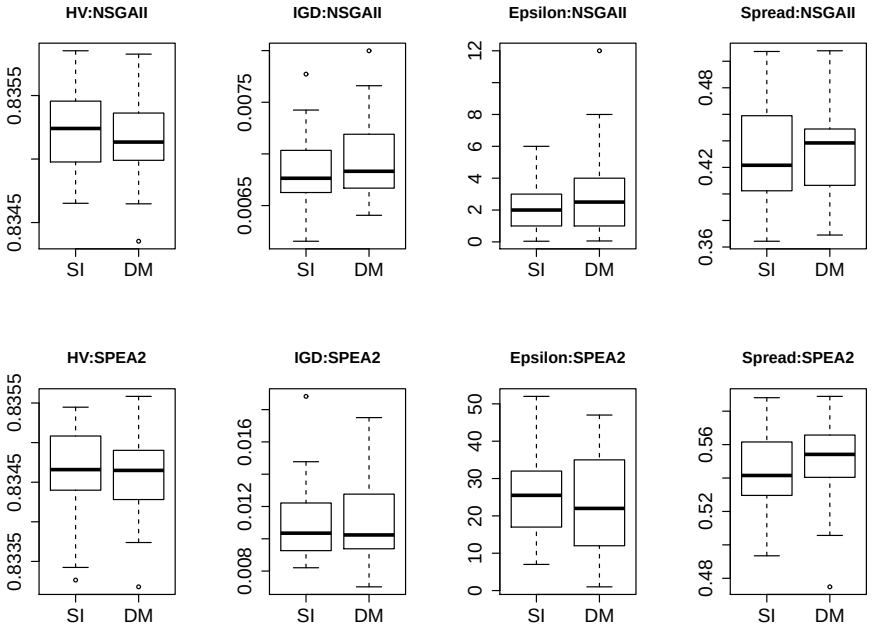

Table 2: Time required in seconds

Technique	time
Smart initialization (prposed in paper)	8280
Diversity Maximization (proposed here)	2.18

Bibliography