

## **METAHEURISTIC OPTIMIZATION OF NATURAL RESOURCES IN THERMAL CRACKING PROCESS**

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**Abstract:** Thermal cracking is one of the most energy-consuming process in the chemical industry and its optimization has become a real challenge for the research community. In this context, this paper proposes two meta-heuristic approaches based on the Genetic Algorithm (GA) and the Harmony Search (HS) algorithms for minimizing the sum of the Energy Consumption and the Water Use in the overall thermal cracking process. Simulation results show that HS achieves best average minimum and mean values than its counterpart GA.