

عنوان مقاله:

Effective co-evolutionary harmony search with PSO for reliability–redundancy allocation problems

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خلاصه مقاله:

Reliability has become an even greater concern in recent years, so it is an important type of optimization problems. The Reliability optimization problem has been solved using meta-heuristics algorithms. This paper studies a special type of these problems which is called reliability-redundancy allocation problem (RRAP). This problem increases reliability by allocated redundancy level and the corresponding reliability of each component considering resource constraints. In this paper, an effective co-evolutionary particle swarm optimization (PSO) combined with harmony search algorithm is proposed to solve the reliability–redundancy optimization problem. In presented approach, Co-evolutionary and Roulette Wheel selection techniques are used to improved performance of the HS algorithm. To show the effectiveness of the proposed method, this algorithm is applied to solve RRAP problem for three kinds of systems and numerical results are presented. The obtained simulation results show that the proposed approach is better compared with previously reported in the recent literature

کلمات کلیدی:

Reliability–redundancy optimization, Harmony search, Coevolution

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