|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Name | Test Function | S | Global opt. |  |
| E | Rosenbrock | C:\Users\somayeh\Desktop\Untitled.png |  |  | 0 |
| Step | C:\Users\somayeh\Desktop\Untitled.png |  |  | 0 |
| **M** | Ackley | C:\Users\somayeh\Desktop\Untitled.png |  |  | 0 |
| Griewank | C:\Users\somayeh\Desktop\Untitled.png |  |  | 0 |
| **H** | Rastrigin | C:\Users\somayeh\Desktop\Untitled.png |  |  | 0 |
| Generalized Penalized | C:\Users\somayeh\Desktop\Untitled.png |  |  | 0 |

**Description:** denotes the solution space dimension, denotes a subset of , and the global optimal solution and the global optimal value of classical benchmark functions are given in column 5 and column 6, respectively. Ten independent experiments must be completed for each optimization function considering .