Notes:

* For all problems, jumbingCF is 2
* For ZDT1 , jumbingCF is 3
* For ZDT2, ZDT3 , jumbingCF is 4
* The best found value for jumbingCF by experiment is 4

Results summary:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| objFun | Set Coverage  (from best to worst) | GD  (from best to worst) | HV  (from best to worst) | NDS  (from best to worst) | Delta  (from best to worst) |
| SCH1 | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA,  MOFA | | |  | | --- | | CF-MOFA,  MOFA | | AJ-MOFA | | NSGA-II | |
| FON | |  | | --- | | AJ-MOFA,  NSGA-II | | MOFA | | CF-MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | MOFA | | CF-MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | MOFA | | CF-MOFA | | same | |  | | --- | | NSGA-II | | CF-MOFA | | AJ-MOFA | | MOFA | |
| POL | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | | same | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | |
| KUR | |  | | --- | | AJ-MOFA | | NSGA-II | | MOFA | | CF-MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | MOFA | | CF-MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | MOFA | | CF-MOFA | | |  | | --- | | AJ-MOFA,  NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | |
| ZDT1 | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA,  NSGA-II | | MOFA | | CF-MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | |
| ZDT2 | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA,  NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | |
| ZDT3 | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA,  NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | |
| ZDT4 | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | MOFA | | CF-MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | MOFA | | CF-MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | CF-MOFA | | MOFA | |
| ZDT6 | |  | | --- | | AJ-MOFA,  NSGA-II | | CF-MOFA | | MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | | |  | | --- | | AJ-MOFA | | NSGA-II | | MOFA | | CF-MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | MOFA | | CF-MOFA | | |  | | --- | | NSGA-II | | AJ-MOFA | | CF-MOFA | | MOFA | |
|  |  |  |  |  |  |

Results Summary (numeric):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| objFun | Algorithm | GD  median | HV  median | NDS  median | Delta  median |
| SCH1 | |  | | --- | | AJ-MOFA | | CF-MOFA | | MOFA | | NSGA-II | | |  | | --- | | 0.0013 | | 20.034 | | 34.6304 | | 2.1292 | | |  | | --- | | 756.048 | | 4.9219 | | 0 | | 909.9078 | | |  | | --- | | 100 | | 1 | | 1 | | 1 | | |  | | --- | | 0.012726 | | 0 | | 0 | | 0 | |
| FON | |  | | --- | | AJ-MOFA | | CF-MOFA | | MOFA | | NSGA-II | | |  | | --- | | 0.0011912 | | 0.0012197 | | 0.0012075 | | 0.0017197 | | |  | | --- | | 0.30064 | | 0.2992 | | 0.29934 | | 0.30167 | | |  | | --- | | 100 | | 100 | | 100 | | 100 | | |  | | --- | | 0.0055952 | | 0.0053307 | | 0.005753 | | 0.0038192 | |
| POL | |  | | --- | | AJ-MOFA | | CF-MOFA | | MOFA | | NSGA-II | | |  | | --- | | 0.0014 | | 0.0043177 | | 0.013866 | | 396.5641 | | |  | | --- | | 396.5129 | | 395.9563 | | 395.3574 | | 396.5641 | | |  | | --- | | 100 | | 100 | | 100 | | 100 | | |  | | --- | | 0.37826 | | 0.38457 | | 0.47207 | | 0.35813 | |
| KUR | |  | | --- | | AJ-MOFA | | CF-MOFA | | MOFA | | NSGA-II | | |  | | --- | | 0.0065 | | 0.13694 | | 0.11081 | | 0.0067702 | | |  | | --- | | 42.052 | | 33.8575 | | 32.9281 | | 41.9187 | | |  | | --- | | 100 | | 19 | | 17 | | 100 | | |  | | --- | | 0.073083 | | 0.41974 | | 0.49136 | | 0.056498 | |
| ZDT1 | |  | | --- | | AJ-MOFA | | CF-MOFA | | MOFA | | NSGA-II | | |  | | --- | | 4.5470e-04 | | 0.069276 | | 0.079599 | | 4.8924e-04 | | |  | | --- | | 1.2766 | | 0.84791 | | 0.78656 | | 1.2757 | | |  | | --- | | 100 | | 21.5 | | 23 | | 100 | | |  | | --- | | 0.0061104 | | 0.045312 | | 0.045602 | | 0.0088904 | |
| ZDT2 | |  | | --- | | AJ-MOFA | | CF-MOFA | | MOFA | | NSGA-II | | |  | | --- | | 5.0098e-04 | | 0.20743 | | 0.26518 | | 5.1868e-04 | | |  | | --- | | 0.91143 | | 0.24954 | | 0.10282 | | 0.91044 | | |  | | --- | | 100 | | 7 | | 5 | | 100 | | |  | | --- | | 0.0063336 | | 0.086784 | | 0.098604 | | 0.0099328 | |
| ZDT3 | |  | | --- | | AJ-MOFA | | CF-MOFA | | MOFA | | NSGA-II | | |  | | --- | | 0.00070482 | | 0.063005 | | 0.080116 | | 0.00056118 | | |  | | --- | | 1.449 | | 0.93474 | | 0.89068 | | 1.4591 | | |  | | --- | | 100 | | 36.5 | | 22.5 | | 100 | | |  | | --- | | 0.013195 | | 0.055125 | | 0.063787 | | 0.01645 | |
| ZDT4 | |  | | --- | | AJ-MOFA | | CF-MOFA | | MOFA | | NSGA-II | | |  | | --- | | 2.9681 | | 29.7303 | | 27.2795 | | 0.08145 | | |  | | --- | | 58.3664 | | 28.4431 | | 20.1262 | | 80.0548 | | |  | | --- | | 100 | | 3 | | 6 | | 21 | | |  | | --- | | 0.0214 | | 2.4671 | | 4.2378 | | 0.041592 | |
| ZDT6 | |  | | --- | | AJ-MOFA | | CF-MOFA | | MOFA | | NSGA-II | | |  | | --- | | 0.085777 | | 0.21927 | | 0.26084 | | 0.00032556 | | |  | | --- | | 4.4567 | | 3.7757 | | 3.9054 | | 4.456 | | |  | | --- | | 100 | | 33.5 | | 36.5 | | 100 | | |  | | --- | | 0.079299 | | 0.24602 | | 0.25337 | | 0.0093746 | |

Set-Coverage Summery (numeric):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| objFun | C(AJ-MOFA,CF-MOFA)  (mean) | C(CF-MOFA, AJ-MOFA)  (mean) | C(AJ-MOFA,MOFA)  (mean) | C(MOFA,AJ-MOFA)  (mean) | C(AJ-MOFA,NSGA-II)  (mean) | C(NSGA-II, AJ-MOFA)  (mean) |
| SCH1 | 1 | 0 | 1 | 0 | 0.375 | 0 |
| FON | 0.26 | 0.105 | 0.25 | 0 | 0.12 | 0.125 |
| POL | 0.1 | 0.04 | 0.065 | 0 | 0.075 | 0.04 |
| KUR | 1 | 0 | 1 | 0 | 0.235 | 0.11 |
| ZDT1 | 1 | 0 | 1 | 0 | 0.12 | 0.04 |
| ZDT2 | 1 | 0 | 1 | 0 | 0.1 | 0 |
| ZDT3 | 1 | 0 | 1 | 0 | 0.155 | 0.02 |
| ZDT4 | 1 | 0 | 1 | 0 | 0 | 1 |
| ZDT6 | 0.16905 | 0 | 0.1676 | 0 | 0 | 0 |