Table 1: Detailed results XH dataset by Pessoa et al. (2018): Minimum and average error gap to BKS per instance and solution method. Bolt marks the best result for each instance, underlined entries denote the best average performance. Blank cells indicate no feasible solution was found within the time limit by the given solution method.

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| X101-FSMFD | 0.0009 | 0.0328 | **0.0** | 0.0024 | 0.0363 | 0.002 |
| X106-FSMD | 0.0029 | 0.0330 | **0.0005** | 0.0034 | 0.0486 | 0.0013 |
| X110-HD | **0.0156** | 0.0402 | 0.0249 | 0.0183 | 0.0544 | 0.0279 |
| X115-HVRP | 0.0123 | - | **0.0011** | 0.0300 | - | 0.0013 |
| X120-FSMF | **0.0256** | 0.0494 | 15.5474 | 0.032 | 0.0538 | 16.0676 |
| X125-HVRP | 0.0154 | **0.0138** | - | 0.0197 | 0.0183 | - |
| X129-FSMFD | **0.019** | 0.0321 | 5.6310 | 0.0225 | 0.0366 | 5.7698 |
| X134-FSMD | 0.0026 | 0.0327 | **-0.0007** | 0.0056 | 0.0419 | 0.0014 |
| X139-HD | 0.0678 | 0.0602 | **0.0515** | 0.0777 | 0.1004 | 0.0538 |
| X143-FSMF | -0.0577 | 0.0310 | **-0.0585** | -0.0521 | 0.0411 | -0.0562 |
| X148-HVRP | **0.0263** | 0.0318 | - | 0.0303 | 0.0351 | - |
| X153-FSMFD | **0.0043** | 0.0285 | 0.0048 | 0.0064 | 0.0411 | 0.0064 |
| X157-HD | **0.0266** | 0.0533 | - | 0.0484 | 0.0570 | - |
| X162-FSMD | 0.0023 | 0.0367 | **0.0** | 0.0043 | 0.0453 | 0.0021 |
| X167-FSMF | **0.0088** | 0.0201 | 0.3305 | 0.0193 | 0.0306 | 11.6258 |
| X172-HVRP | **0.0107** | 0.0461 | 0.0303 | 0.0118 | 0.0503 | 0.0324 |
| X176-FSMFD | **0.0365** | 0.0431 | - | 0.0412 | 0.0680 | - |
| X181-HD | **0.0345** | 0.0361 | - | 0.0410 | 0.0399 | - |
| X186-FSMD | **0.0047** | 0.0477 | 0.0087 | 0.0065 | 0.0562 | 0.0132 |
| X190-FSMF | **0.0152** | 0.0322 | 0.0312 | 0.0219 | 0.0420 | 0.0564 |
| X195-FSMF | -0.0157 | 0.0104 | **-0.0158** | -0.0130 | 0.0132 | -0.0132 |
| X200-HD | 0.0132 | 0.0157 | **0.0032** | 0.0169 | 0.0177 | 0.0039 |
| X204-FSMD | **0.0022** | 0.0411 | 0.0183 | 0.0066 | 0.0493 | 0.0285 |
| X209-FSMFD | **0.0181** | 0.0404 | 0.0309 | 0.0232 | 0.0530 | 0.0345 |
| X214-HVRP | 0.0263 | 0.0771 | **-0.0062** | 0.0413 | 0.0891 | -0.0015 |
| X219-HD | **0.0039** | 0.0049 | - | 0.0047 | 0.0064 | - |
| X223-HVRP | **0.0169** | 0.0309 | - | 0.0332 | 0.0467 | - |
| X228-FSMFD | **0.0142** | 0.0397 | 0.0201 | 0.0175 | 0.0485 | 0.0221 |
| X233-FSMD | 0.0078 | 0.0497 | **0.0014** | 0.0137 | 0.0663 | 0.0158 |
| X237-FSMF | **-0.0055** | 0.0524 | 14.8823 | 0.0085 | 0.0682 | 14.9189 |
| X242-FSMFD | **0.0143** | 0.0257 | 3.5777 | 0.0153 | 0.0276 | 3.7333 |
| X247-HVRP | 0.0203 | 0.0380 | **0.0109** | 0.0229 | 0.0474 | 0.0161 |
| X251-FSMD | **0.0067** | 0.0468 | 0.0171 | 0.008 | 0.0502 | 0.0177 |
| X256-FSMF | -0.0068 | 0.0160 | **-0.0136** | 0.0002 | 0.0224 | -0.0104 |
| X261-HD | 0.0245 | 0.0518 | **-0.0061** | 0.0343 | 0.0642 | -0.002 |
| X266-HD | **0.0194** | 0.0330 | 0.0699 | 0.0261 | 0.0450 | 0.0789 |
| X270-FSMD | **0.0058** | 0.0292 | 0.0156 | 0.006 | 0.0366 | 0.0228 |
| X275-HVRP | 0.0546 | **0.0533** | - | 0.0584 | 0.0586 | - |
| X280-FSMF | **0.0171** | 0.0249 | 14.0816 | 0.0284 | 0.0392 | 14.2440 |
| X284-FSMFD | **0.023** | 0.0299 | 0.0336 | 0.0304 | 0.0400 | 0.0373 |
| X289-HVRP | **0.016** | 0.0312 | 0.0295 | 0.0229 | 0.0335 | 0.0311 |
| X294-HD | 0.0159 | 0.0428 | **0.005** | 0.0208 | 0.0497 | 0.0081 |
| X298-FSMD | **0.0035** | 0.0362 | 0.0188 | 0.0041 | 0.0485 | 0.0211 |
| X303-FSMFD | 0.0004 | 0.0241 | **-0.0065** | 0.0023 | 0.0431 | -0.0029 |
| X308-FSMF | **-0.0006** | 0.0118 | 0.2924 | 0.0079 | 0.0231 | 0.3288 |
| X313-FSMD | **0.0017** | 0.0179 | 0.0043 | 0.0034 | 0.0193 | 0.0059 |
| X317-HVRP | **0.0083** | 0.0098 | - | 0.0095 | 0.0106 | - |
| X322-HD | 0.0132 | 0.0415 | **0.0037** | 0.0202 | 0.0451 | 0.0059 |
| X327-FSMFD | **0.0241** | 0.0380 | 0.0387 | 0.027 | 0.0430 | 0.0405 |
| X331-FSMF | **-0.0041** | 0.0219 | 19.6873 | 0.0083 | 0.0286 | 20.1363 |
| X336-FSMF | **0.0144** | 0.0371 | 0.1172 | 0.0186 | 0.0412 | 0.1284 |
| X344-FSMD | **0.0019** | 0.0396 | 0.0199 | 0.0035 | 0.0444 | 0.0207 |
| X351-HVRP | 0.0307 | 0.0316 | **0.0043** | 0.0328 | 0.0345 | 0.0064 |
| X359-HD | **0.0515** | 0.0528 | 0.0578 | 0.0579 | 0.0618 | 0.0617 |
| X367-FSMFD | **0.011** | 0.0261 | 0.0613 | 0.0174 | 0.0312 | 0.0660 |
| X376-HD | **0.0078** | 0.0115 | - | 0.0105 | 0.0129 | - |
| X384-FSMF | 0.0082 | 0.0344 | **0.0046** | 0.0093 | 0.0398 | 0.0084 |
| X393-HVRP | **0.032** | 0.0335 | - | 0.035 | 0.0361 | - |
| X401-FSMFD | -0.0096 | 0.0159 | **-0.0131** | -0.0082 | 0.0228 | -0.0126 |
| X411-FSMD | -0.0048 | 0.0703 | **-0.0153** | 0.0010 | 0.0850 | -0.0092 |
| X420-FSMD | **0.0133** | 0.0353 | - | 0.0148 | 0.0564 | - |
| X429-HVRP | 0.0209 | 0.0338 | **0.0037** | 0.0239 | 0.0385 | 0.0046 |
| X439-FSMF | **0.0264** | 0.0490 | 10.3613 | 0.0294 | 0.0515 | 10.5406 |
| X449-FSMFD | -0.0096 | 0.0231 | **-0.0148** | -0.0080 | 0.0273 | -0.0142 |
| X459-HD | 0.0434 | 0.0634 | **0.0036** | 0.0539 | 0.0662 | 0.0064 |
| X469-HD | **0.0092** | 0.0561 | 0.0119 | 0.0104 | 0.0592 | 0.0139 |
| X480-FSMD | **0.0121** | 0.0368 | 5.1672 | 0.0146 | 0.0396 | 5.2428 |
| X491-FSMF | 0.0073 | 0.0348 | **0.0069** | 0.0104 | 0.0378 | 0.0184 |
| X502-FSMFD | **-0.0074** | 0.0209 | 12.1135 | -0.0008 | 0.0223 | 12.2447 |

Table 1: (continued)

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| X513-HVRP | 0.0384 | 0.0431 | **0.019** | 0.0427 | 0.0518 | 0.0245 |
| X524-HD | **0.0286** | 0.0454 | 0.0468 | 0.0325 | 0.0482 | 0.0551 |
| X536-FSMFD | 0.0039 | 0.0702 | **0.0037** | 0.0069 | 0.0736 | 0.0047 |
| X548-FSMF | **0.0224** | 0.0432 | 11.2333 | 0.026 | 0.0448 | 11.3470 |
| X561-FSMD | **0.0088** | 0.0388 | 0.0261 | 0.0123 | 0.0487 | 0.0272 |
| X573-HVRP | 0.0180 | **0.0169** | - | 0.0233 | 0.0226 | - |
| X586-FSMF | **0.0294** | 0.0525 | 3.0280 | 0.0325 | 0.0546 | 3.0893 |
| X599-FSMD | **0.0008** | 0.0496 | 0.0072 | 0.0009 | 0.0520 | 0.0084 |
| X613-HD | 0.0421 | 0.0413 | **0.0161** | 0.0452 | 0.0480 | 0.0201 |
| X627-HVRP | **0.0165** | 0.0172 | - | 0.0210 | 0.0209 | - |
| X641-FSMFD | **0.0012** | 0.0222 | 0.0085 | 0.0043 | 0.0285 | 0.0173 |
| X655-HD | 0.0248 | **0.0237** | - | 0.0253 | 0.0252 | - |
| X670-FSMF | **0.0175** | 0.0461 | 0.2692 | 0.0236 | 0.0516 | - |
| X685-FSMD | **0.0032** | 0.0472 | 0.0108 | 0.0058 | 0.0546 | 0.0126 |
| X701-HVRP | 0.0201 | **0.0171** | - | 0.0211 | 0.0194 | - |
| X716-FSMFD | **-0.0035** | 0.0162 | -0.0022 | -0.0002 | 0.0215 | 0.0023 |
| X733-FSMFD | **0.0157** | 0.0446 | 3.4048 | 0.0183 | 0.0467 | 3.4998 |
| X749-FSMF | 0.0100 | 0.0254 | **0.0066** | 0.0109 | 0.0273 | 0.0082 |
| X766-FSMD | **0.0089** | 0.0378 | 0.0208 | 0.0105 | 0.0402 | 0.0236 |
| X783-HD | 0.0416 | 0.0519 | **0.0196** | 0.0508 | 0.0567 | 0.0263 |
| X801-HVRP | 0.0441 | **0.0426** | - | 0.0466 | 0.0442 | - |
| X819-FSMD | **0.0079** | 0.0353 | 0.1571 | 0.0095 | 0.0386 | 0.1667 |
| X837-HD | 0.0200 | **0.0173** | - | 0.0287 | 0.0218 | - |
| X856-HVRP | 0.0308 | **0.0292** | - | 0.0314 | 0.0311 | - |
| X876-FSMF | -0.0841 | -0.0632 | **-0.0905** | -0.0821 | -0.0583 | -0.0844 |
| X895-FSMFD | -0.0025 | 0.0355 | **-0.0071** | -0.0008 | 0.0393 | -0.0046 |
| X916-FSMFD | **0.0264** | 0.0394 | 3.4529 | 0.0279 | 0.0410 | 3.4807 |
| X936-FSMD | **0.007** | 0.0363 | 0.0112 | 0.0088 | 0.0389 | 0.0121 |
| X957-HD | **0.0735** | 0.0775 | - | 0.0857 | 0.0791 | - |
| X979-HVRP | 0.0097 | 0.0072 | **-0.006** | 0.0133 | 0.0095 | -0.0035 |
| X1001-FSMF | -0.0417 | 0.0020 | **-0.0554** | -0.0367 | 0.0082 | -0.0533 |

Table 2: Detailed results FSMVRPTW dataset by Bräysy et al. (2009): Minimum and average error gap to BKS per instance and solution method. Bolt marks the best result for each instance, underlined entries denote the best average performance. Blank cells indicate no feasible solution was found within the time limit by the given solution method.

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| c1_10_10_fsm_A | **-0.0223** | -0.0204 | 0.0069 | -0.0194 | -0.0175 | 0.0092 |
| c1_10_10_fsm_C | **-0.0472** | -0.0406 | -0.0379 | -0.0422 | -0.0402 | -0.0325 |
| c1_10_1_fsm_A | **0.0006** | 0.0119 | 0.0876 | 0.0012 | 0.0125 | 0.0946 |
| c1_10_1_fsm_C | **0.0** | 0.0010 | 0.0153 | 0.0001 | 0.0012 | 0.0167 |
| c1_10_2_fsm_A | **-0.015** | 0.0017 | 0.0317 | -0.0126 | 0.0059 | 0.0451 |
| c1_10_2_fsm_C | **-0.0246** | -0.0206 | -0.0125 | -0.0224 | -0.0161 | -0.0096 |
| c1_10_3_fsm_A | **-0.0257** | -0.0225 | -0.0012 | -0.0211 | -0.0089 | 0.0055 |
| c1_10_3_fsm_C | **-0.0462** | -0.0417 | -0.0311 | -0.0429 | -0.0373 | -0.0249 |
| c1_10_4_fsm_A | **-0.014** | 0.0072 | 0.0003 | -0.011 | 0.0124 | 0.0038 |
| c1_10_4_fsm_C | **-0.0586** | -0.0158 | -0.0435 | -0.054 | -0.0105 | -0.0329 |
| c1_10_5_fsm_A | **-0.004** | 0.0080 | 0.0702 | -0.0032 | 0.0092 | 0.0784 |
| c1_10_5_fsm_C | **-0.0005** | 0.0010 | 0.0133 | -0.0005 | 0.0010 | 0.0164 |
| c1_10_6_fsm_A | **-0.0071** | 0.0056 | 0.0536 | -0.0062 | 0.0061 | 0.0773 |
| c1_10_6_fsm_C | **-0.0016** | -0.0003 | 0.0144 | -0.0016 | -0.0002 | 0.0160 |
| c1_10_7_fsm_A | **-0.0129** | 0.0007 | 0.0357 | -0.0111 | 0.0007 | 0.0513 |
| c1_10_7_fsm_C | **-0.0027** | -0.0017 | 0.0118 | -0.0025 | -0.0014 | 0.0155 |
| c1_10_8_fsm_A | **-0.0096** | -0.0005 | 0.0367 | -0.0087 | 0.0026 | 0.0507 |
| c1_10_8_fsm_C | **-0.0162** | -0.0133 | 0.0030 | -0.0113 | -0.0107 | 0.0059 |
| c1_10_9_fsm_A | **-0.0152** | -0.0061 | 0.0394 | -0.0107 | -0.0024 | 0.0440 |
| c1_10_9_fsm_C | -0.0239 | **-0.0248** | -0.0120 | -0.0223 | -0.0217 | -0.0088 |
| c1_2_10_fsm_A | **-0.0053** | 0.0185 | 0.0031 | 0.0036 | 0.0224 | 0.0049 |
| c1_2_10_fsm_C | **-0.007** | -0.0025 | -0.0038 | -0.0047 | -0.0025 | 0.0043 |
| c1_2_1_fsm_A | **0.0037** | 0.0335 | 0.0246 | 0.0073 | 0.0335 | 0.0294 |
| c1_2_1_fsm_C | **0.0005** | 0.0043 | 0.0005 | 0.0011 | 0.0043 | 0.001 |
| c1_2_2_fsm_A | 0.0066 | 0.0264 | **0.0024** | 0.0088 | 0.0303 | 0.0058 |
| c1_2_2_fsm_C | **0.0007** | 0.0051 | 0.0086 | 0.0023 | 0.0124 | 0.0112 |
| c1_2_3_fsm_A | **-0.0097** | 0.0032 | -0.0040 | -0.0028 | 0.0061 | 0.0003 |
| c1_2_3_fsm_C | **-0.0064** | -0.0056 | -0.0031 | -0.0055 | -0.0051 | -0.0011 |
| c1_2_4_fsm_A | **-0.0094** | 0.0082 | -0.0046 | -0.0015 | 0.0155 | -0.0032 |
| c1_2_4_fsm_C | **-0.0099** | -0.0059 | -0.0050 | -0.0072 | -0.0026 | -0.0023 |
| c1_2_5_fsm_A | **-0.0016** | 0.0279 | 0.0120 | 0.007 | 0.0279 | 0.0211 |
| c1_2_5_fsm_C | **0.0002** | 0.0027 | 0.0005 | 0.0004 | 0.0027 | 0.0012 |
| c1_2_6_fsm_A | **0.0051** | 0.0269 | 0.0059 | 0.0073 | 0.0269 | 0.0149 |
| c1_2_6_fsm_C | **0.0003** | 0.0025 | 0.0003 | 0.0003 | 0.0025 | 0.0010 |
| c1_2_7_fsm_A | 0.0016 | 0.0229 | **0.0005** | 0.005 | 0.0229 | 0.0096 |
| c1_2_7_fsm_C | **0.001** | 0.0043 | 0.0104 | 0.0019 | 0.0043 | 0.0184 |
| c1_2_8_fsm_A | -0.0016 | 0.0277 | **-0.0036** | 0.0044 | 0.0277 | 0.0035 |
| c1_2_8_fsm_C | **-0.0001** | 0.0146 | 0.0064 | 0.0024 | 0.0146 | 0.0180 |
| c1_2_9_fsm_A | **-0.0075** | 0.0140 | -0.0052 | -0.0005 | 0.0140 | -0.0011 |
| c1_2_9_fsm_C | **-0.0005** | 0.0027 | 0.0054 | 0.0007 | 0.0027 | 0.0095 |
| c1_4_10_fsm_A | -0.0103 | 0.0008 | **-0.012** | -0.0062 | 0.0072 | -0.0076 |
| c1_4_10_fsm_C | **-0.0145** | -0.0144 | -0.0101 | -0.0129 | -0.0122 | -0.0068 |
| c1_4_1_fsm_A | **0.0039** | 0.0142 | 0.0406 | 0.0059 | 0.0142 | 0.0501 |
| c1_4_1_fsm_C | **0.0002** | 0.0011 | 0.0008 | 0.0005 | 0.0011 | 0.0090 |
| c1_4_2_fsm_A | **-0.0036** | 0.0245 | 0.0002 | -0.0002 | 0.0329 | 0.0066 |
| c1_4_2_fsm_C | **-0.0037** | 0.0132 | -0.0001 | -0.0023 | 0.0179 | 0.0034 |
| c1_4_3_fsm_A | **-0.0102** | -0.0053 | -0.0098 | -0.0076 | 0.0038 | -0.0032 |
| c1_4_3_fsm_C | **-0.0119** | 0.0114 | -0.0056 | -0.0057 | 0.0207 | -0.0018 |
| c1_4_4_fsm_A | **-0.0115** | -0.0006 | -0.0070 | -0.0081 | 0.0048 | 0.0007 |
| c1_4_4_fsm_C | -0.0224 | -0.0099 | **-0.0229** | -0.0193 | 0.0004 | -0.0208 |
| c1_4_5_fsm_A | **-0.0048** | 0.0081 | 0.0372 | -0.0032 | 0.0081 | 0.0384 |
| c1_4_5_fsm_C | **0.0** | 0.0018 | 0.0054 | 0.0004 | 0.0018 | 0.0124 |
| c1_4_6_fsm_A | **-0.0142** | 0.0017 | 0.0126 | -0.0117 | 0.0017 | 0.0255 |
| c1_4_6_fsm_C | **0.0002** | 0.0027 | 0.0098 | 0.0008 | 0.0027 | 0.0139 |
| c1_4_7_fsm_A | **-0.0148** | 0.0005 | 0.0076 | -0.0132 | 0.0005 | 0.0209 |
| c1_4_7_fsm_C | **0.0** | 0.0034 | 0.0138 | 0.0005 | 0.0034 | 0.0168 |
| c1_4_8_fsm_A | **-0.0114** | 0.0065 | -0.0023 | -0.0086 | 0.0072 | 0.0053 |
| c1_4_8_fsm_C | **-0.005** | 0.0004 | 0.0036 | -0.0044 | 0.0011 | 0.0075 |
| c1_4_9_fsm_A | **-0.0132** | 0.0030 | -0.0007 | -0.0104 | 0.0073 | 0.0025 |
| c1_4_9_fsm_C | **-0.016** | -0.0141 | -0.0125 | -0.0144 | -0.0127 | -0.0069 |
| c1_6_10_fsm_A | -0.0156 | -0.0084 | **-0.0167** | -0.0107 | -0.0048 | -0.0070 |
| c1_6_10_fsm_C | **-0.0086** | -0.0078 | -0.0051 | -0.0038 | -0.0019 | -0.0026 |
| c1_6_1_fsm_A | **0.0034** | 0.0206 | 0.0612 | 0.0045 | 0.0230 | 0.0660 |
| c1_6_1_fsm_C | **-0.0004** | 0.0035 | 0.0079 | -0.0 | 0.0037 | 0.0125 |
| c1_6_2_fsm_A | **-0.0002** | 0.0216 | 0.0159 | 0.0013 | 0.0236 | 0.0223 |
| c1_6_2_fsm_C | **-0.0037** | -0.0030 | 0.0031 | -0.0028 | 0.0030 | 0.0066 |
| c1_6_3_fsm_A | **-0.0088** | -0.0004 | -0.0033 | -0.0059 | 0.0067 | 0.0038 |
| c1_6_3_fsm_C | **-0.0263** | -0.0131 | -0.0235 | -0.0237 | -0.0099 | -0.0107 |
| c1_6_4_fsm_A | **-0.0064** | 0.0143 | -0.0054 | -0.0012 | 0.0174 | -0.0000 |

Table 2: (continued)

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| c1_6_4_fsm_C | **-0.0237** | 0.0046 | -0.0200 | -0.0222 | 0.0097 | -0.0158 |
| c1_6_5_fsm_A | **-0.0043** | 0.0176 | 0.0332 | -0.0024 | 0.0191 | 0.0390 |
| c1_6_5_fsm_C | **0.0001** | 0.0037 | 0.0137 | 0.0006 | 0.0038 | 0.0181 |
| c1_6_6_fsm_A | **-0.0102** | 0.0109 | 0.0327 | -0.009 | 0.0117 | 0.0408 |
| c1_6_6_fsm_C | **-0.0008** | 0.0034 | 0.0095 | -0.0005 | 0.0034 | 0.0144 |
| c1_6_7_fsm_A | **-0.0112** | 0.0101 | 0.0334 | -0.0091 | 0.0123 | 0.0459 |
| c1_6_7_fsm_C | **-0.0006** | 0.0031 | 0.0198 | -0.0002 | 0.0031 | 0.0216 |
| c1_6_8_fsm_A | **-0.0081** | 0.0062 | 0.0361 | -0.0054 | 0.0108 | 0.0422 |
| c1_6_8_fsm_C | **-0.0041** | 0.0008 | 0.0076 | -0.003 | 0.0023 | 0.0099 |
| c1_6_9_fsm_A | **-0.0134** | -0.0005 | 0.0076 | -0.0099 | 0.0039 | 0.0159 |
| c1_6_9_fsm_C | **-0.0121** | -0.0044 | -0.0026 | -0.0098 | -0.0037 | 0.0008 |
| c1_8_10_fsm_A | **-0.0207** | -0.0179 | -0.0045 | -0.0152 | -0.0134 | -0.0005 |
| c1_8_10_fsm_C | **-0.0348** | -0.0327 | -0.0273 | -0.0284 | -0.0298 | -0.0227 |
| c1_8_1_fsm_A | **0.0021** | 0.0142 | 0.0871 | 0.0031 | 0.0165 | 0.0917 |
| c1_8_1_fsm_C | **-0.0005** | 0.0008 | 0.0148 | -0.0004 | 0.0012 | 0.0178 |
| c1_8_2_fsm_A | **-0.004** | 0.0163 | 0.0345 | -0.0025 | 0.0192 | 0.0403 |
| c1_8_2_fsm_C | **-0.0091** | -0.0027 | 0.0056 | -0.0079 | -0.0022 | 0.0080 |
| c1_8_3_fsm_A | **-0.017** | -0.0016 | -0.0016 | -0.0137 | 0.0064 | 0.0026 |
| c1_8_3_fsm_C | **-0.0336** | -0.0167 | -0.0161 | -0.0311 | -0.0071 | -0.0102 |
| c1_8_4_fsm_A | **-0.0175** | 0.0056 | -0.0035 | -0.0144 | 0.0068 | -0.0029 |
| c1_8_4_fsm_C | **-0.0432** | -0.0238 | -0.0401 | -0.0409 | -0.0165 | -0.0306 |
| c1_8_5_fsm_A | **-0.0047** | 0.0106 | 0.0483 | -0.0042 | 0.0115 | 0.0614 |
| c1_8_5_fsm_C | **-0.0002** | 0.0011 | 0.0170 | -0.0 | 0.0011 | 0.0197 |
| c1_8_6_fsm_A | **-0.0122** | 0.0032 | 0.0377 | -0.0114 | 0.0040 | 0.0596 |
| c1_8_6_fsm_C | **-0.0016** | -0.0000 | 0.0178 | -0.0015 | 0.0002 | 0.0199 |
| c1_8_7_fsm_A | **-0.0116** | 0.0042 | 0.0379 | -0.01 | 0.0045 | 0.0560 |
| c1_8_7_fsm_C | **-0.0017** | 0.0003 | 0.0163 | -0.0014 | 0.0003 | 0.0183 |
| c1_8_8_fsm_A | **-0.0138** | -0.0027 | 0.0387 | -0.0103 | 0.0015 | 0.0432 |
| c1_8_8_fsm_C | **-0.0133** | -0.0116 | 0.0028 | -0.0083 | -0.011 | 0.0055 |
| c1_8_9_fsm_A | **-0.0236** | -0.0114 | 0.0160 | -0.0196 | -0.0052 | 0.0217 |
| c1_8_9_fsm_C | **-0.0266** | -0.0255 | -0.0191 | -0.0254 | -0.0251 | -0.0154 |
| c2_10_10_fsm_A | **-0.0419** | -0.0417 | -0.0258 | -0.0356 | -0.0362 | -0.0120 |
| c2_10_10_fsm_C | -0.0957 | **-0.098** | -0.0879 | -0.0951 | -0.0937 | -0.0847 |
| c2_10_1_fsm_A | **-0.0392** | -0.0314 | -0.0151 | -0.0366 | -0.0314 | 0.0209 |
| c2_10_1_fsm_C | **-0.0755** | -0.0719 | -0.0647 | -0.0739 | -0.0719 | -0.0500 |
| c2_10_2_fsm_A | **-0.0577** | -0.0393 | -0.0036 | -0.0516 | -0.0355 | 0.0035 |
| c2_10_2_fsm_C | **-0.0786** | -0.0705 | -0.0656 | -0.0762 | -0.0695 | -0.0542 |
| c2_10_3_fsm_A | **-0.0454** | -0.0286 | -0.0141 | -0.0377 | -0.0219 | -0.0043 |
| c2_10_3_fsm_C | **-0.0935** | -0.0879 | -0.0854 | -0.0923 | -0.0871 | -0.0793 |
| c2_10_4_fsm_A | **-0.0281** | -0.0270 | -0.0249 | -0.0239 | -0.0210 | -0.0146 |
| c2_10_4_fsm_C | **-0.0874** | -0.0817 | -0.0799 | -0.0812 | -0.0771 | -0.0703 |
| c2_10_5_fsm_A | **-0.0485** | -0.0383 | 0.0124 | -0.045 | -0.0322 | 0.0252 |
| c2_10_5_fsm_C | **-0.0848** | -0.0831 | -0.0674 | -0.0832 | -0.0818 | -0.0588 |
| c2_10_6_fsm_A | **-0.0516** | -0.0386 | 0.0078 | -0.0465 | -0.0350 | 0.0201 |
| c2_10_6_fsm_C | **-0.103** | -0.0998 | -0.0903 | -0.0999 | -0.0976 | -0.0823 |
| c2_10_7_fsm_A | **-0.044** | -0.0331 | 0.0041 | -0.0407 | -0.0290 | 0.0145 |
| c2_10_7_fsm_C | **-0.0876** | -0.0849 | -0.0726 | -0.0852 | -0.0845 | -0.0672 |
| c2_10_8_fsm_A | **-0.0488** | -0.0249 | -0.0033 | -0.0422 | -0.0212 | 0.0099 |
| c2_10_8_fsm_C | **-0.0935** | -0.0880 | -0.0858 | -0.0926 | -0.0869 | -0.0813 |
| c2_10_9_fsm_A | **-0.0499** | -0.0334 | -0.0201 | -0.0432 | -0.0287 | -0.0086 |
| c2_10_9_fsm_C | **-0.0984** | -0.0916 | -0.0857 | -0.0962 | -0.0910 | -0.0812 |
| c2_2_10_fsm_A | 0.0055 | 0.0354 | **0.0005** | 0.0154 | 0.0485 | 0.012 |
| c2_2_10_fsm_C | -0.0097 | 0.0075 | **-0.0105** | 0.0026 | 0.0075 | -0.004 |
| c2_2_1_fsm_A | **-0.0067** | 0.0193 | -0.0044 | 0.0107 | 0.0193 | 0.0099 |
| c2_2_1_fsm_C | 0.0020 | 0.0059 | **0.0002** | 0.0057 | 0.0059 | 0.0108 |
| c2_2_2_fsm_A | **-0.0315** | 0.0052 | -0.0120 | -0.004 | 0.0052 | 0.0095 |
| c2_2_2_fsm_C | -0.0128 | -0.0051 | **-0.015** | -0.0066 | -0.0051 | -0.0016 |
| c2_2_3_fsm_A | **0.0119** | 0.0361 | 0.0140 | 0.0223 | 0.0362 | 0.015 |
| c2_2_3_fsm_C | **-0.0183** | -0.0116 | -0.0170 | -0.0156 | -0.0116 | -0.0120 |
| c2_2_4_fsm_A | -0.0108 | 0.0235 | **-0.0128** | 0.0007 | 0.0303 | -0.0058 |
| c2_2_4_fsm_C | **-0.0262** | -0.0145 | -0.0213 | -0.022 | -0.0145 | -0.0143 |
| c2_2_5_fsm_A | **-0.0177** | 0.0227 | 0.0034 | 0.0059 | 0.0266 | 0.0167 |
| c2_2_5_fsm_C | -0.0049 | 0.0045 | **-0.012** | -0.0001 | 0.0047 | -0.0085 |
| c2_2_6_fsm_A | **0.0076** | 0.0206 | 0.0096 | 0.0135 | 0.0206 | 0.0122 |
| c2_2_6_fsm_C | 0.0001 | 0.0001 | **-0.0122** | 0.0001 | 0.0001 | -0.0017 |
| c2_2_7_fsm_A | -0.0107 | 0.0143 | **-0.0115** | 0.0001 | 0.0143 | 0.0015 |
| c2_2_7_fsm_C | **-0.0147** | 0.0009 | -0.0114 | -0.0040 | 0.0009 | -0.0051 |
| c2_2_8_fsm_A | **0.0008** | 0.0270 | 0.0094 | 0.0144 | 0.0271 | 0.0254 |
| c2_2_8_fsm_C | -0.0066 | -0.0066 | **-0.0205** | -0.0066 | -0.0064 | -0.0096 |
| c2_2_9_fsm_A | **-0.0077** | 0.0104 | 0.0017 | -0.0015 | 0.0235 | 0.0075 |
| c2_2_9_fsm_C | -0.0076 | 0.0030 | **-0.0134** | -0.005 | 0.0031 | -0.0027 |
| c2_4_10_fsm_A | **-0.0345** | -0.0173 | -0.0269 | -0.0251 | -0.0002 | -0.0078 |

Table 2: (continued)

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| c2_4_10_fsm_C | -0.0454 | -0.0366 | **-0.0456** | -0.0359 | -0.0321 | -0.0353 |
| c2_4_1_fsm_A | **-0.0339** | -0.0192 | -0.0107 | -0.0204 | -0.0192 | 0.0112 |
| c2_4_1_fsm_C | **-0.0257** | -0.0257 | -0.0222 | -0.0225 | -0.0257 | -0.0088 |
| c2_4_2_fsm_A | **-0.0019** | 0.0058 | 0.0134 | 0.0021 | 0.0158 | 0.0320 |
| c2_4_2_fsm_C | -0.0370 | -0.0337 | **-0.0389** | -0.0353 | -0.0330 | -0.0286 |
| c2_4_3_fsm_A | **-0.0249** | -0.0082 | -0.0230 | -0.0212 | -0.0005 | -0.0099 |
| c2_4_3_fsm_C | **-0.037** | -0.0259 | -0.0160 | -0.0302 | -0.0168 | -0.0135 |
| c2_4_4_fsm_A | **-0.0291** | -0.0036 | -0.0204 | -0.0094 | 0.0029 | -0.0165 |
| c2_4_4_fsm_C | **-0.0466** | -0.0284 | -0.0447 | -0.0399 | -0.0241 | -0.0344 |
| c2_4_5_fsm_A | **-0.027** | -0.0090 | 0.0014 | -0.0244 | -0.0067 | 0.0118 |
| c2_4_5_fsm_C | -0.0340 | -0.0308 | **-0.0399** | -0.0325 | -0.0305 | -0.0249 |
| c2_4_6_fsm_A | **-0.0222** | 0.0058 | -0.0048 | -0.0067 | 0.0061 | 0.0060 |
| c2_4_6_fsm_C | -0.0259 | -0.0146 | **-0.0343** | -0.0189 | -0.0144 | -0.0125 |
| c2_4_7_fsm_A | **-0.0362** | -0.0021 | -0.0176 | -0.0271 | 0.0002 | 0.0009 |
| c2_4_7_fsm_C | -0.0430 | -0.0394 | **-0.05** | -0.0401 | -0.0390 | -0.0432 |
| c2_4_8_fsm_A | **-0.0445** | -0.0112 | -0.0074 | -0.0317 | -0.0044 | 0.0035 |
| c2_4_8_fsm_C | -0.0517 | -0.0501 | **-0.0541** | -0.0492 | -0.0462 | -0.0329 |
| c2_4_9_fsm_A | **-0.0341** | -0.0124 | -0.0207 | -0.024 | -0.0038 | -0.0097 |
| c2_4_9_fsm_C | **-0.0321** | -0.0226 | -0.0229 | -0.0258 | -0.0224 | -0.0170 |
| c2_6_10_fsm_A | **-0.0305** | -0.0104 | -0.0247 | -0.024 | -0.0046 | -0.0151 |
| c2_6_10_fsm_C | **-0.0705** | -0.0608 | -0.0649 | -0.0657 | -0.0586 | -0.0615 |
| c2_6_1_fsm_A | **-0.0426** | -0.0309 | -0.0102 | -0.0341 | -0.0309 | 0.0017 |
| c2_6_1_fsm_C | **-0.0365** | -0.0322 | -0.0173 | -0.0322 | -0.0322 | -0.0002 |
| c2_6_2_fsm_A | **-0.0482** | -0.0274 | -0.0401 | -0.0468 | -0.0260 | -0.0277 |
| c2_6_2_fsm_C | **-0.0504** | -0.0462 | -0.0447 | -0.0483 | -0.0449 | -0.0326 |
| c2_6_3_fsm_A | **-0.0289** | -0.0115 | -0.0200 | -0.0248 | -0.0061 | -0.0118 |
| c2_6_3_fsm_C | **-0.0616** | -0.0526 | -0.0586 | -0.0584 | -0.0507 | -0.0491 |
| c2_6_4_fsm_A | **-0.0342** | -0.0182 | -0.0306 | -0.0267 | -0.0117 | -0.0206 |
| c2_6_4_fsm_C | **-0.0747** | -0.0625 | -0.0613 | -0.0656 | -0.0587 | -0.0525 |
| c2_6_5_fsm_A | **-0.0435** | -0.0316 | -0.0120 | -0.0375 | -0.0276 | 0.0064 |
| c2_6_5_fsm_C | **-0.059** | -0.0549 | -0.0476 | -0.0529 | -0.0549 | -0.0360 |
| c2_6_6_fsm_A | **-0.0359** | -0.0180 | -0.0209 | -0.0349 | -0.0139 | -0.0032 |
| c2_6_6_fsm_C | -0.0625 | -0.0586 | **-0.0634** | -0.0588 | -0.0583 | -0.0588 |
| c2_6_7_fsm_A | **-0.0383** | -0.0241 | -0.0369 | -0.0291 | -0.0194 | -0.0083 |
| c2_6_7_fsm_C | **-0.0707** | -0.0650 | -0.0656 | -0.0677 | -0.0647 | -0.0507 |
| c2_6_8_fsm_A | **-0.0466** | -0.0164 | -0.0260 | -0.034 | -0.0086 | -0.0122 |
| c2_6_8_fsm_C | **-0.0495** | -0.0451 | -0.0408 | -0.0473 | -0.0441 | -0.0331 |
| c2_6_9_fsm_A | **-0.0365** | -0.0152 | -0.0184 | -0.0313 | -0.0074 | -0.0104 |
| c2_6_9_fsm_C | **-0.0698** | -0.0663 | -0.0693 | -0.0672 | -0.0640 | -0.0642 |
| c2_8_10_fsm_A | **-0.0304** | -0.0233 | -0.0115 | -0.0231 | -0.0197 | -0.0024 |
| c2_8_10_fsm_C | -0.0679 | -0.0673 | **-0.0701** | -0.0592 | -0.0658 | -0.0613 |
| c2_8_1_fsm_A | **-0.0449** | -0.0282 | 0.0037 | -0.0417 | -0.0275 | 0.0216 |
| c2_8_1_fsm_C | **-0.0442** | -0.0414 | -0.0428 | -0.0431 | -0.0409 | -0.0307 |
| c2_8_2_fsm_A | **-0.0412** | -0.0254 | -0.0062 | -0.0336 | -0.0162 | 0.0020 |
| c2_8_2_fsm_C | **-0.0734** | -0.0632 | -0.0626 | -0.0718 | -0.0619 | -0.0550 |
| c2_8_3_fsm_A | **-0.0357** | -0.0271 | -0.0278 | -0.0341 | -0.0246 | -0.0224 |
| c2_8_3_fsm_C | **-0.0762** | -0.0698 | -0.0728 | -0.0655 | -0.0667 | -0.0602 |
| c2_8_4_fsm_A | **-0.0215** | -0.0126 | -0.0063 | -0.0172 | -0.0082 | -0.0019 |
| c2_8_4_fsm_C | -0.0742 | -0.0699 | **-0.0766** | -0.0707 | -0.0667 | -0.0663 |
| c2_8_5_fsm_A | **-0.0491** | -0.0231 | 0.0208 | -0.039 | -0.0165 | 0.0244 |
| c2_8_5_fsm_C | **-0.0647** | -0.0575 | -0.0541 | -0.0636 | -0.0575 | -0.0514 |
| c2_8_6_fsm_A | **-0.0508** | -0.0264 | -0.0090 | -0.0424 | -0.0183 | 0.0099 |
| c2_8_6_fsm_C | **-0.0623** | -0.0585 | -0.0520 | -0.0605 | -0.0560 | -0.0448 |
| c2_8_7_fsm_A | **-0.042** | -0.0281 | -0.0078 | -0.036 | -0.0242 | -0.0007 |
| c2_8_7_fsm_C | **0.0584** | 0.0629 | 0.0705 | 0.0619 | 0.0646 | 0.0773 |
| c2_8_8_fsm_A | **-0.0369** | -0.0287 | -0.0119 | -0.0326 | -0.0187 | -0.0043 |
| c2_8_8_fsm_C | **-0.0774** | -0.0743 | -0.0681 | -0.0758 | -0.0695 | -0.0649 |
| c2_8_9_fsm_A | **-0.0295** | -0.0188 | -0.0005 | -0.0221 | -0.0114 | 0.0052 |
| c2_8_9_fsm_C | **-0.091** | -0.0877 | -0.0823 | -0.0879 | -0.0859 | -0.0754 |
| r1_10_10_fsm_A | **-0.0216** | 0.0706 | -0.0202 | -0.0204 | 0.0756 | -0.0002 |
| r1_10_10_fsm_C | -0.0347 | 0.0840 | **-0.0358** | -0.0271 | 0.0918 | -0.0065 |
| r1_10_1_fsm_A | **0.009** | 0.0210 | 0.0269 | 0.0188 | 0.0270 | 0.0389 |
| r1_10_1_fsm_C | **-0.02** | -0.0024 | 0.0084 | -0.0101 | 0.0109 | 0.0180 |
| r1_10_2_fsm_A | **-0.0063** | 0.0580 | -0.0033 | 0.0042 | 0.0657 | 0.0183 |
| r1_10_2_fsm_C | **-0.035** | 0.0319 | -0.0081 | -0.0172 | 0.0578 | 0.0152 |
| r1_10_3_fsm_A | **-0.0178** | 0.0747 | 0.0082 | -0.0064 | 0.0904 | 0.0130 |
| r1_10_3_fsm_C | -0.0349 | 0.0813 | **-0.0416** | -0.0192 | 0.0890 | -0.0170 |
| r1_10_4_fsm_A | -0.0222 | 0.0510 | **-0.0252** | -0.0154 | 0.0650 | -0.0223 |
| r1_10_4_fsm_C | **-0.0364** | 0.0640 | -0.0363 | -0.0289 | 0.0712 | -0.0325 |
| r1_10_5_fsm_A | **-0.0188** | 0.0839 | 0.0378 | -0.0083 | 0.0947 | 0.0642 |
| r1_10_5_fsm_C | **-0.0333** | 0.0634 | -0.0052 | -0.0281 | 0.0695 | 0.0103 |
| r1_10_6_fsm_A | **-0.0153** | 0.1017 | 0.0061 | -0.0103 | 0.1062 | 0.0164 |

Table 2: (continued)

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| r1_10_6_fsm_C | **-0.0421** | 0.0864 | -0.0170 | -0.0346 | 0.0956 | -0.0115 |
| r1_10_7_fsm_A | **-0.0279** | 0.0675 | -0.0241 | -0.0241 | 0.0785 | -0.0152 |
| r1_10_7_fsm_C | **-0.0389** | 0.0867 | -0.0283 | -0.0339 | 0.1015 | -0.0211 |
| r1_10_8_fsm_A | -0.0200 | 0.0462 | **-0.0288** | -0.0146 | 0.0536 | -0.0242 |
| r1_10_8_fsm_C | -0.0331 | 0.0715 | **-0.039** | -0.0268 | 0.0735 | -0.0345 |
| r1_10_9_fsm_A | **-0.0247** | 0.0818 | 0.0027 | -0.016 | 0.0929 | 0.0243 |
| r1_10_9_fsm_C | **-0.0297** | 0.0878 | -0.0020 | -0.0245 | 0.1045 | 0.0074 |
| r1_2_10_fsm_A | -0.0078 | 0.0968 | **-0.0218** | 0.0021 | 0.1173 | -0.0213 |
| r1_2_10_fsm_C | -0.0087 | 0.1061 | **-0.0163** | -0.0056 | 0.1212 | -0.0124 |
| r1_2_1_fsm_A | 0.0153 | 0.0344 | **0.0029** | 0.0255 | 0.0378 | 0.0047 |
| r1_2_1_fsm_C | **-0.0025** | 0.0127 | -0.0017 | -0.0013 | 0.0133 | -0.0002 |
| r1_2_2_fsm_A | 0.0134 | 0.0206 | **-0.0106** | 0.0257 | 0.0252 | -0.0062 |
| r1_2_2_fsm_C | -0.0071 | 0.0116 | **-0.0117** | -0.0009 | 0.0127 | -0.0095 |
| r1_2_3_fsm_A | -0.0029 | 0.0509 | **-0.0049** | 0.0162 | 0.0613 | 0.0046 |
| r1_2_3_fsm_C | **-0.0116** | 0.0227 | -0.0085 | -0.0108 | 0.0287 | -0.0078 |
| r1_2_4_fsm_A | -0.0126 | 0.0664 | **-0.0166** | 0.0016 | 0.0805 | -0.0165 |
| r1_2_4_fsm_C | -0.0115 | 0.1034 | **-0.0172** | -0.0042 | 0.1164 | -0.016 |
| r1_2_5_fsm_A | -0.0046 | 0.0079 | **-0.0102** | 0.0070 | 0.0224 | -0.0055 |
| r1_2_5_fsm_C | -0.0114 | 0.0093 | **-0.0116** | -0.0086 | 0.0275 | -0.0106 |
| r1_2_6_fsm_A | 0.0033 | 0.0595 | **-0.0026** | 0.0095 | 0.0672 | 0.0096 |
| r1_2_6_fsm_C | **-0.0147** | 0.0269 | -0.0132 | -0.0085 | 0.0360 | -0.0077 |
| r1_2_7_fsm_A | -0.0096 | 0.0938 | **-0.0246** | -0.0024 | 0.1030 | -0.0242 |
| r1_2_7_fsm_C | -0.0247 | 0.0681 | **-0.0253** | -0.0188 | 0.0901 | -0.0155 |
| r1_2_8_fsm_A | -0.0049 | 0.0656 | **-0.0128** | 0.0013 | 0.0744 | -0.012 |
| r1_2_8_fsm_C | -0.0234 | 0.0759 | **-0.0244** | -0.0191 | 0.0896 | -0.0235 |
| r1_2_9_fsm_A | -0.0078 | 0.0549 | **-0.0196** | -0.0051 | 0.0730 | -0.0112 |
| r1_2_9_fsm_C | -0.0219 | 0.0361 | **-0.0222** | -0.0172 | 0.0415 | -0.0194 |
| r1_4_10_fsm_A | -0.0186 | 0.1013 | **-0.027** | -0.0164 | 0.1124 | -0.0155 |
| r1_4_10_fsm_C | **-0.0305** | 0.0987 | -0.0251 | -0.0266 | 0.1183 | -0.0205 |
| r1_4_1_fsm_A | 0.0190 | 0.0459 | **0.0036** | 0.0255 | 0.0485 | 0.0109 |
| r1_4_1_fsm_C | 0.0008 | 0.0035 | **-0.0053** | 0.0053 | 0.0052 | -0.0031 |
| r1_4_2_fsm_A | -0.0034 | 0.0426 | **-0.0205** | 0.0151 | 0.0495 | -0.0033 |
| r1_4_2_fsm_C | -0.0209 | 0.0173 | **-0.0288** | -0.0182 | 0.0269 | -0.0226 |
| r1_4_3_fsm_A | -0.0229 | 0.0780 | **-0.0284** | -0.0085 | 0.0854 | -0.0136 |
| r1_4_3_fsm_C | **-0.034** | 0.0744 | -0.0333 | -0.0259 | 0.0901 | -0.0254 |
| r1_4_4_fsm_A | -0.0127 | 0.0707 | **-0.02** | -0.0112 | 0.0751 | -0.0185 |
| r1_4_4_fsm_C | -0.0266 | 0.0701 | **-0.0359** | -0.0244 | 0.0899 | -0.0295 |
| r1_4_5_fsm_A | **-0.0108** | 0.0355 | 0.0014 | -0.0058 | 0.0508 | 0.0171 |
| r1_4_5_fsm_C | **-0.014** | 0.0378 | -0.0117 | -0.0095 | 0.0420 | -0.0070 |
| r1_4_6_fsm_A | **-0.0212** | 0.0961 | -0.0175 | -0.0167 | 0.1065 | 0.0040 |
| r1_4_6_fsm_C | **-0.0344** | 0.0662 | -0.0301 | -0.0273 | 0.0756 | -0.0186 |
| r1_4_7_fsm_A | -0.0207 | 0.0610 | **-0.0246** | -0.0178 | 0.0799 | -0.0239 |
| r1_4_7_fsm_C | **-0.036** | 0.0889 | -0.0350 | -0.0301 | 0.1089 | -0.0282 |
| r1_4_8_fsm_A | -0.0139 | 0.0646 | **-0.0213** | -0.0107 | 0.0691 | -0.018 |
| r1_4_8_fsm_C | -0.0291 | 0.0867 | **-0.0305** | -0.0249 | 0.0971 | -0.0298 |
| r1_4_9_fsm_A | **-0.0203** | 0.0839 | -0.0077 | -0.0132 | 0.0880 | 0.0044 |
| r1_4_9_fsm_C | **-0.016** | 0.0615 | -0.0112 | -0.0116 | 0.0706 | -0.0015 |
| r1_6_10_fsm_A | **-0.0203** | 0.0736 | -0.0083 | -0.0142 | 0.0861 | 0.0112 |
| r1_6_10_fsm_C | **-0.0393** | 0.1045 | -0.0368 | -0.0312 | 0.1087 | -0.0222 |
| r1_6_1_fsm_A | **0.0153** | 0.0522 | 0.0314 | 0.0279 | 0.0581 | 0.0406 |
| r1_6_1_fsm_C | **-0.0096** | -0.0059 | 0.0015 | -0.0025 | -0.0029 | 0.0034 |
| r1_6_2_fsm_A | **0.0043** | 0.0646 | 0.0157 | 0.0126 | 0.0722 | 0.0265 |
| r1_6_2_fsm_C | **-0.0237** | 0.0313 | -0.0207 | -0.0156 | 0.0396 | -0.0140 |
| r1_6_3_fsm_A | **-0.0122** | 0.0657 | 0.0100 | 0.0014 | 0.0778 | 0.0234 |
| r1_6_3_fsm_C | -0.0276 | 0.0841 | **-0.0351** | -0.0244 | 0.0896 | -0.0247 |
| r1_6_4_fsm_A | -0.0142 | 0.0683 | **-0.0304** | -0.0100 | 0.0792 | -0.0295 |
| r1_6_4_fsm_C | -0.0236 | 0.0701 | **-0.0321** | -0.0199 | 0.0914 | -0.0276 |
| r1_6_5_fsm_A | **-0.0112** | 0.0679 | 0.0240 | -0.008 | 0.0746 | 0.0344 |
| r1_6_5_fsm_C | **-0.0272** | 0.0163 | -0.0059 | -0.0222 | 0.0418 | -0.0016 |
| r1_6_6_fsm_A | **-0.0232** | 0.0766 | 0.0027 | -0.0155 | 0.0859 | 0.0185 |
| r1_6_6_fsm_C | -0.0274 | 0.0863 | **-0.0284** | -0.0215 | 0.0956 | -0.0162 |
| r1_6_7_fsm_A | **-0.0262** | 0.0768 | -0.0224 | -0.0191 | 0.0935 | -0.0048 |
| r1_6_7_fsm_C | **-0.026** | 0.1059 | -0.0219 | -0.0211 | 0.1181 | -0.0130 |
| r1_6_8_fsm_A | -0.0201 | 0.0559 | **-0.0271** | -0.0177 | 0.0604 | -0.0249 |
| r1_6_8_fsm_C | -0.0299 | 0.0766 | **-0.0391** | -0.0238 | 0.0892 | -0.0346 |
| r1_6_9_fsm_A | **-0.0183** | 0.0923 | 0.0207 | -0.0124 | 0.0992 | 0.0329 |
| r1_6_9_fsm_C | **-0.0244** | 0.0921 | -0.0094 | -0.0185 | 0.1018 | -0.0007 |
| r1_8_10_fsm_A | **-0.0277** | 0.0612 | 0.0014 | -0.0235 | 0.0673 | 0.0108 |
| r1_8_10_fsm_C | **-0.0394** | 0.0884 | -0.0376 | -0.0352 | 0.0946 | -0.0103 |
| r1_8_1_fsm_A | **0.0015** | 0.0268 | 0.0081 | 0.0076 | 0.0311 | 0.0179 |
| r1_8_1_fsm_C | **-0.0213** | -0.0133 | -0.0026 | -0.0127 | 0.0010 | 0.0057 |
| r1_8_2_fsm_A | **-0.0065** | 0.0311 | -0.0039 | 0.0074 | 0.0435 | 0.0049 |

Table 2: (continued)

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| r1_8_2_fsm_C | **-0.0216** | 0.0246 | -0.0152 | -0.0134 | 0.0340 | -0.0092 |
| r1_8_3_fsm_A | **-0.01** | 0.0750 | -0.0034 | 0.0002 | 0.0882 | 0.0058 |
| r1_8_3_fsm_C | -0.0299 | 0.0846 | **-0.04** | -0.0202 | 0.0955 | -0.0236 |
| r1_8_4_fsm_A | -0.0242 | 0.0467 | **-0.032** | -0.0170 | 0.0644 | -0.0276 |
| r1_8_4_fsm_C | -0.0287 | 0.0863 | **-0.0315** | -0.0218 | 0.0939 | -0.0279 |
| r1_8_5_fsm_A | **-0.0149** | 0.0557 | 0.0333 | -0.009 | 0.0758 | 0.0372 |
| r1_8_5_fsm_C | **-0.0356** | 0.0530 | -0.0097 | -0.0285 | 0.0689 | -0.0032 |
| r1_8_6_fsm_A | **-0.0259** | 0.0836 | 0.0002 | -0.0186 | 0.0945 | 0.0186 |
| r1_8_6_fsm_C | -0.0269 | 0.1016 | **-0.0356** | -0.0213 | 0.1104 | -0.0059 |
| r1_8_7_fsm_A | **-0.0185** | 0.0731 | -0.0039 | -0.0135 | 0.0839 | 0.0015 |
| r1_8_7_fsm_C | **-0.0392** | 0.0893 | -0.0273 | -0.0328 | 0.0994 | -0.0166 |
| r1_8_8_fsm_A | -0.0247 | 0.0440 | **-0.0325** | -0.0211 | 0.0577 | -0.0308 |
| r1_8_8_fsm_C | -0.0253 | 0.0817 | **-0.0341** | -0.0231 | 0.0909 | -0.0308 |
| r1_8_9_fsm_A | **-0.0214** | 0.0843 | -0.0020 | -0.0166 | 0.0934 | 0.0183 |
| r1_8_9_fsm_C | **-0.0318** | 0.0916 | -0.0082 | -0.0266 | 0.1081 | 0.0061 |
| r2_10_10_fsm_A | **-0.1776** | -0.1535 | -0.1716 | -0.1631 | -0.1323 | -0.1524 |
| r2_10_10_fsm_C | -0.0790 | -0.0918 | **-0.0945** | -0.0725 | -0.0840 | -0.0879 |
| r2_10_1_fsm_A | -0.1079 | -0.1078 | **-0.1192** | -0.0937 | -0.0966 | -0.1181 |
| r2_10_1_fsm_C | -0.0431 | -0.0420 | **-0.0545** | -0.0367 | -0.0394 | -0.046 |
| r2_10_2_fsm_A | -0.1433 | -0.1338 | **-0.1546** | -0.1319 | -0.1196 | -0.1447 |
| r2_10_2_fsm_C | -0.0389 | -0.0405 | **-0.0553** | -0.0279 | -0.0300 | -0.0479 |
| r2_10_3_fsm_A | -0.1264 | -0.1192 | **-0.151** | -0.1199 | -0.1098 | -0.1295 |
| r2_10_3_fsm_C | -0.0643 | -0.0635 | **-0.0807** | -0.0547 | -0.0580 | -0.0715 |
| r2_10_4_fsm_A | -0.1160 | -0.0404 | **-0.1233** | -0.0986 | -0.0232 | -0.118 |
| r2_10_4_fsm_C | -0.0990 | -0.0447 | **-0.1078** | -0.0911 | -0.0331 | -0.1011 |
| r2_10_5_fsm_A | -0.1585 | **-0.1716** | -0.1585 | -0.1372 | -0.1584 | -0.1537 |
| r2_10_5_fsm_C | -0.0545 | -0.0521 | **-0.0626** | -0.0480 | -0.0502 | -0.0591 |
| r2_10_6_fsm_A | -0.1339 | -0.1202 | **-0.1444** | -0.1192 | -0.1044 | -0.1297 |
| r2_10_6_fsm_C | -0.0675 | -0.0741 | **-0.0806** | -0.0579 | -0.0662 | -0.0752 |
| r2_10_7_fsm_A | **-0.1348** | -0.0783 | -0.1193 | -0.1206 | -0.0630 | -0.1085 |
| r2_10_7_fsm_C | -0.0749 | -0.0858 | **-0.0988** | -0.0642 | -0.0747 | -0.093 |
| r2_10_8_fsm_A | -0.0991 | -0.0345 | **-0.1139** | -0.0782 | -0.0274 | -0.1013 |
| r2_10_8_fsm_C | -0.0787 | -0.0271 | **-0.1046** | -0.0699 | -0.0190 | -0.0939 |
| r2_10_9_fsm_A | -0.1727 | **-0.1761** | -0.1591 | -0.1604 | -0.1683 | -0.1493 |
| r2_10_9_fsm_C | -0.0642 | -0.0719 | **-0.0767** | -0.0535 | -0.0676 | -0.0722 |
| r2_2_10_fsm_A | -0.0398 | -0.0433 | **-0.0436** | -0.0263 | -0.0268 | -0.0436 |
| r2_2_10_fsm_C | -0.0584 | **-0.0641** | -0.0614 | -0.0390 | -0.0626 | -0.0542 |
| r2_2_1_fsm_A | -0.0267 | 0.0154 | **-0.0652** | -0.0146 | 0.0218 | -0.0441 |
| r2_2_1_fsm_C | 0.0069 | 0.0320 | **-0.0044** | 0.0153 | 0.0321 | 0.0035 |
| r2_2_2_fsm_A | -0.0500 | -0.0314 | **-0.078** | -0.0351 | -0.0232 | -0.0706 |
| r2_2_2_fsm_C | -0.0270 | 0.0085 | **-0.0377** | -0.0156 | 0.0130 | -0.0292 |
| r2_2_3_fsm_A | -0.0151 | 0.0280 | **-0.0269** | -0.0066 | 0.0424 | -0.0199 |
| r2_2_3_fsm_C | -0.0188 | 0.0181 | **-0.0362** | -0.0091 | 0.0183 | -0.0305 |
| r2_2_4_fsm_A | -0.0178 | -0.0277 | **-0.0287** | -0.0118 | 0.0145 | -0.0251 |
| r2_2_4_fsm_C | -0.0602 | -0.0518 | **-0.077** | -0.0535 | -0.0476 | -0.068 |
| r2_2_5_fsm_A | -0.0397 | -0.0154 | **-0.068** | -0.0322 | -0.0123 | -0.0557 |
| r2_2_5_fsm_C | -0.0263 | -0.0174 | **-0.0388** | -0.0211 | -0.0165 | -0.035 |
| r2_2_6_fsm_A | -0.0688 | **-0.0919** | -0.0789 | -0.0607 | -0.0737 | -0.0592 |
| r2_2_6_fsm_C | -0.0350 | -0.0188 | **-0.0448** | -0.0255 | -0.0153 | -0.0408 |
| r2_2_7_fsm_A | -0.0282 | -0.0312 | **-0.0352** | -0.0178 | -0.0138 | -0.0217 |
| r2_2_7_fsm_C | -0.0341 | -0.0159 | **-0.04** | -0.0238 | 0.0050 | -0.0312 |
| r2_2_8_fsm_A | -0.0212 | 0.0276 | **-0.0306** | -0.0157 | 0.0340 | -0.03 |
| r2_2_8_fsm_C | -0.0663 | -0.0629 | **-0.0684** | -0.0525 | -0.0410 | -0.0592 |
| r2_2_9_fsm_A | -0.0875 | **-0.0894** | -0.0827 | -0.0681 | -0.0827 | -0.0611 |
| r2_2_9_fsm_C | -0.0294 | -0.0259 | **-0.0543** | -0.0241 | -0.0242 | -0.044 |
| r2_4_10_fsm_A | -0.0536 | -0.0367 | **-0.0923** | -0.0500 | -0.0211 | -0.0745 |
| r2_4_10_fsm_C | -0.0671 | -0.0825 | **-0.0839** | -0.0587 | -0.0776 | -0.0815 |
| r2_4_1_fsm_A | -0.0786 | -0.0680 | **-0.1149** | -0.0683 | -0.0628 | -0.0925 |
| r2_4_1_fsm_C | -0.0269 | 0.0044 | **-0.0403** | -0.0129 | 0.0150 | -0.0362 |
| r2_4_2_fsm_A | -0.0494 | -0.0289 | **-0.0897** | -0.0392 | -0.0267 | -0.0752 |
| r2_4_2_fsm_C | -0.0244 | 0.0142 | **-0.0418** | -0.0150 | 0.0225 | -0.0374 |
| r2_4_3_fsm_A | -0.0593 | **-0.0683** | -0.0659 | -0.0421 | -0.0393 | -0.0574 |
| r2_4_3_fsm_C | -0.0529 | -0.0303 | **-0.0664** | -0.0377 | -0.0239 | -0.0635 |
| r2_4_4_fsm_A | -0.0539 | 0.0199 | **-0.0583** | -0.0392 | 0.0344 | -0.0257 |
| r2_4_4_fsm_C | -0.0486 | -0.0350 | **-0.0772** | -0.0421 | -0.0202 | -0.0634 |
| r2_4_5_fsm_A | -0.0876 | **-0.1112** | -0.1079 | -0.0686 | -0.0846 | -0.0961 |
| r2_4_5_fsm_C | -0.0455 | -0.0432 | **-0.0704** | -0.0385 | -0.0397 | -0.0644 |
| r2_4_6_fsm_A | -0.0435 | -0.0385 | **-0.083** | -0.0305 | -0.0244 | -0.047 |
| r2_4_6_fsm_C | -0.0585 | -0.0487 | **-0.081** | -0.0452 | -0.0384 | -0.0737 |
| r2_4_7_fsm_A | -0.0416 | -0.0057 | **-0.0742** | -0.0345 | 0.0223 | -0.0573 |
| r2_4_7_fsm_C | -0.0631 | -0.0502 | **-0.0815** | -0.0553 | -0.0374 | -0.0783 |
| r2_4_8_fsm_A | -0.0082 | 0.0538 | **-0.0344** | 0.0007 | 0.0864 | -0.0237 |

Table 2: (continued)

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| r2_4_8_fsm_C | -0.0645 | -0.0206 | **-0.0799** | -0.0559 | 0.0046 | -0.0751 |
| r2_4_9_fsm_A | -0.0974 | -0.0889 | **-0.126** | -0.0765 | -0.0804 | -0.1012 |
| r2_4_9_fsm_C | -0.0521 | -0.0550 | **-0.0724** | -0.0443 | -0.0521 | -0.0697 |
| r2_6_10_fsm_A | -0.1188 | -0.0645 | **-0.1212** | -0.1023 | -0.0391 | -0.1163 |
| r2_6_10_fsm_C | -0.0594 | -0.0589 | **-0.0772** | -0.0491 | -0.0523 | -0.0747 |
| r2_6_1_fsm_A | -0.1190 | -0.1222 | **-0.1466** | -0.0996 | -0.1119 | -0.1304 |
| r2_6_1_fsm_C | -0.0336 | -0.0063 | **-0.0354** | -0.0219 | 0.0002 | -0.0315 |
| r2_6_2_fsm_A | -0.1074 | -0.1202 | **-0.1601** | -0.0917 | -0.1101 | -0.1297 |
| r2_6_2_fsm_C | -0.0308 | -0.0191 | **-0.0412** | -0.0189 | -0.0139 | -0.0367 |
| r2_6_3_fsm_A | -0.0810 | -0.0763 | **-0.0975** | -0.0683 | -0.0584 | -0.0828 |
| r2_6_3_fsm_C | -0.0491 | -0.0375 | **-0.0627** | -0.0386 | -0.0348 | -0.0594 |
| r2_6_4_fsm_A | **-0.0819** | -0.0139 | -0.0759 | -0.0654 | 0.0146 | -0.0651 |
| r2_6_4_fsm_C | -0.0574 | -0.0464 | **-0.0743** | -0.0531 | -0.0338 | -0.0724 |
| r2_6_5_fsm_A | -0.1417 | **-0.1627** | -0.1499 | -0.1210 | -0.1539 | -0.1281 |
| r2_6_5_fsm_C | -0.0308 | -0.0303 | **-0.049** | -0.0242 | -0.0253 | -0.0452 |
| r2_6_6_fsm_A | -0.0931 | -0.0900 | **-0.1017** | -0.0808 | -0.0728 | -0.0805 |
| r2_6_6_fsm_C | -0.0521 | -0.0609 | **-0.077** | -0.0427 | -0.0548 | -0.0738 |
| r2_6_7_fsm_A | -0.0930 | -0.0558 | **-0.1129** | -0.0828 | -0.0265 | -0.0791 |
| r2_6_7_fsm_C | -0.0537 | -0.0657 | **-0.0751** | -0.0458 | -0.0515 | -0.0716 |
| r2_6_8_fsm_A | -0.0649 | -0.0147 | **-0.101** | -0.0551 | 0.0009 | -0.0781 |
| r2_6_8_fsm_C | -0.0656 | -0.0385 | **-0.0781** | -0.0569 | -0.0089 | -0.0691 |
| r2_6_9_fsm_A | -0.1404 | -0.1259 | **-0.1412** | -0.1078 | -0.1075 | -0.1284 |
| r2_6_9_fsm_C | -0.0394 | -0.0490 | **-0.0584** | -0.0308 | -0.0447 | -0.0552 |
| r2_8_10_fsm_A | -0.1497 | -0.1051 | **-0.1649** | -0.1388 | -0.0917 | -0.1532 |
| r2_8_10_fsm_C | -0.0660 | -0.0713 | **-0.0855** | -0.0562 | -0.0675 | -0.082 |
| r2_8_1_fsm_A | -0.1047 | -0.1026 | **-0.1413** | -0.0923 | -0.0986 | -0.1393 |
| r2_8_1_fsm_C | -0.0379 | -0.0387 | **-0.0493** | -0.0303 | -0.0347 | -0.0455 |
| r2_8_2_fsm_A | -0.1158 | -0.1325 | **-0.1532** | -0.1044 | -0.1261 | -0.127 |
| r2_8_2_fsm_C | -0.0571 | -0.0591 | **-0.0623** | -0.0478 | -0.0524 | -0.06 |
| r2_8_3_fsm_A | -0.1250 | -0.1249 | **-0.1436** | -0.1166 | -0.1070 | -0.1375 |
| r2_8_3_fsm_C | -0.0616 | -0.0679 | **-0.0726** | -0.0506 | -0.0590 | -0.0698 |
| r2_8_4_fsm_A | **-0.1407** | -0.0495 | -0.1251 | -0.1317 | -0.0422 | -0.1222 |
| r2_8_4_fsm_C | -0.0765 | -0.0733 | **-0.0938** | -0.0735 | -0.0512 | -0.0913 |
| r2_8_5_fsm_A | -0.1299 | -0.1409 | **-0.1434** | -0.1181 | -0.1276 | -0.1266 |
| r2_8_5_fsm_C | -0.0492 | -0.0543 | **-0.0682** | -0.0423 | -0.0499 | -0.0624 |
| r2_8_6_fsm_A | **-0.137** | -0.1116 | -0.1353 | -0.1196 | -0.0978 | -0.1184 |
| r2_8_6_fsm_C | -0.0618 | -0.0653 | **-0.0777** | -0.0533 | -0.0630 | -0.0731 |
| r2_8_7_fsm_A | -0.1469 | -0.1305 | **-0.1713** | -0.1440 | -0.1051 | -0.1579 |
| r2_8_7_fsm_C | -0.0827 | -0.0846 | **-0.0918** | -0.0724 | -0.0728 | -0.0888 |
| r2_8_8_fsm_A | -0.1169 | -0.0369 | **-0.1279** | -0.1036 | -0.0304 | -0.1007 |
| r2_8_8_fsm_C | -0.0740 | -0.0422 | **-0.0965** | -0.0690 | -0.0272 | -0.0886 |
| r2_8_9_fsm_A | -0.1316 | -0.1371 | **-0.1541** | -0.1155 | -0.1304 | -0.1208 |
| r2_8_9_fsm_C | -0.0633 | -0.0572 | **-0.0723** | -0.0463 | -0.0545 | -0.0696 |
| rc1_10_10_fsm_A | **-0.0268** | 0.1039 | -0.0268 | -0.0216 | 0.1142 | -0.0142 |
| rc1_10_10_fsm_C | -0.0344 | 0.1079 | **-0.0411** | -0.0294 | 0.1303 | -0.0236 |
| rc1_10_1_fsm_A | **-0.0245** | 0.0229 | 0.0180 | -0.0108 | 0.0337 | 0.0240 |
| rc1_10_1_fsm_C | **-0.0392** | 0.0131 | -0.0193 | -0.0317 | 0.0230 | -0.0137 |
| rc1_10_2_fsm_A | **-0.031** | 0.0813 | -0.0147 | -0.0186 | 0.0887 | 0.0064 |
| rc1_10_2_fsm_C | **-0.0422** | 0.0625 | -0.0231 | -0.036 | 0.0792 | -0.0166 |
| rc1_10_3_fsm_A | **-0.0275** | 0.0782 | -0.0062 | -0.0236 | 0.0910 | -0.0003 |
| rc1_10_3_fsm_C | -0.0359 | 0.0993 | **-0.0434** | -0.0309 | 0.1083 | -0.0252 |
| rc1_10_4_fsm_A | -0.0205 | 0.0508 | **-0.0253** | -0.0149 | 0.0624 | -0.0195 |
| rc1_10_4_fsm_C | -0.0301 | 0.0619 | **-0.0382** | -0.0261 | 0.0794 | -0.0308 |
| rc1_10_5_fsm_A | **-0.0343** | 0.0382 | -0.0034 | -0.0186 | 0.0567 | 0.0092 |
| rc1_10_5_fsm_C | -0.0431 | 0.0419 | **-0.0485** | -0.0349 | 0.0516 | -0.0229 |
| rc1_10_6_fsm_A | **-0.024** | 0.0763 | 0.0138 | -0.0164 | 0.0857 | 0.0329 |
| rc1_10_6_fsm_C | -0.0498 | 0.0749 | **-0.0576** | -0.0379 | 0.0862 | -0.0374 |
| rc1_10_7_fsm_A | **-0.0252** | 0.0880 | 0.0197 | -0.0143 | 0.0956 | 0.0378 |
| rc1_10_7_fsm_C | -0.0476 | 0.0866 | **-0.0531** | -0.0414 | 0.1041 | -0.0268 |
| rc1_10_8_fsm_A | **-0.0212** | 0.1040 | 0.0005 | -0.0171 | 0.1079 | 0.0083 |
| rc1_10_8_fsm_C | **-0.0349** | 0.1095 | -0.0149 | -0.0272 | 0.1308 | 0.0018 |
| rc1_10_9_fsm_A | **-0.0226** | 0.0964 | -0.0102 | -0.0186 | 0.1041 | 0.0101 |
| rc1_10_9_fsm_C | -0.0388 | 0.1059 | **-0.0426** | -0.0333 | 0.1172 | -0.0277 |
| rc1_2_10_fsm_A | -0.0048 | 0.0805 | **-0.0215** | 0.0002 | 0.1058 | -0.0194 |
| rc1_2_10_fsm_C | -0.0156 | 0.1214 | **-0.0177** | -0.0131 | 0.1272 | -0.0166 |
| rc1_2_1_fsm_A | 0.0060 | 0.0711 | **-0.0039** | 0.0155 | 0.0761 | 0.0049 |
| rc1_2_1_fsm_C | **-0.0134** | 0.0140 | -0.0128 | -0.0096 | 0.0158 | -0.0119 |
| rc1_2_2_fsm_A | -0.0109 | 0.0752 | **-0.0116** | -0.0027 | 0.0868 | -0.0068 |
| rc1_2_2_fsm_C | -0.0172 | 0.0803 | **-0.0261** | -0.0157 | 0.0841 | -0.0175 |
| rc1_2_3_fsm_A | -0.0049 | 0.0897 | **-0.0199** | 0.0000 | 0.1006 | -0.0176 |
| rc1_2_3_fsm_C | -0.0268 | 0.0777 | **-0.0273** | -0.0244 | 0.0886 | -0.0266 |
| rc1_2_4_fsm_A | -0.0138 | 0.0613 | **-0.0214** | -0.0019 | 0.0719 | -0.0199 |

Table 2: (continued)

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| rc1_2_4_fsm_C | -0.0175 | 0.0667 | **-0.019** | -0.0146 | 0.0885 | -0.0189 |
| rc1_2_5_fsm_A | -0.0021 | 0.0256 | **-0.0295** | 0.0034 | 0.0511 | -0.0195 |
| rc1_2_5_fsm_C | **-0.0165** | 0.0213 | -0.0141 | -0.0108 | 0.0382 | -0.0105 |
| rc1_2_6_fsm_A | -0.0107 | 0.0345 | **-0.0322** | -0.0013 | 0.0485 | -0.0168 |
| rc1_2_6_fsm_C | -0.0149 | 0.0252 | **-0.0227** | -0.0081 | 0.0469 | -0.0148 |
| rc1_2_7_fsm_A | -0.0134 | 0.0588 | **-0.027** | -0.0043 | 0.0855 | -0.025 |
| rc1_2_7_fsm_C | -0.0165 | 0.0597 | **-0.0183** | -0.0112 | 0.0664 | -0.014 |
| rc1_2_8_fsm_A | -0.0021 | 0.0988 | **-0.0183** | 0.0011 | 0.1133 | -0.0163 |
| rc1_2_8_fsm_C | -0.0317 | 0.0890 | **-0.0339** | -0.0299 | 0.0924 | -0.0329 |
| rc1_2_9_fsm_A | -0.0206 | 0.0876 | **-0.0275** | -0.0025 | 0.0964 | -0.0255 |
| rc1_2_9_fsm_C | -0.0276 | 0.0739 | **-0.0293** | -0.0254 | 0.0845 | -0.0246 |
| rc1_4_10_fsm_A | -0.0125 | 0.1199 | **-0.0174** | -0.0089 | 0.1261 | -0.0164 |
| rc1_4_10_fsm_C | -0.0381 | 0.1071 | **-0.0408** | -0.0337 | 0.1330 | -0.0389 |
| rc1_4_1_fsm_A | -0.0046 | 0.0241 | **-0.006** | 0.0019 | 0.0355 | 0.0058 |
| rc1_4_1_fsm_C | **-0.0125** | 0.0312 | -0.0103 | -0.0093 | 0.0456 | -0.0084 |
| rc1_4_2_fsm_A | -0.0200 | 0.0705 | **-0.0264** | -0.0183 | 0.0808 | -0.0172 |
| rc1_4_2_fsm_C | **-0.0305** | 0.0396 | -0.0299 | -0.0275 | 0.0537 | -0.0218 |
| rc1_4_3_fsm_A | -0.0212 | 0.0775 | **-0.0287** | -0.0170 | 0.0892 | -0.026 |
| rc1_4_3_fsm_C | -0.0352 | 0.0631 | **-0.0422** | -0.0306 | 0.0991 | -0.0378 |
| rc1_4_4_fsm_A | -0.0172 | 0.0865 | **-0.0201** | -0.0131 | 0.1024 | -0.0175 |
| rc1_4_4_fsm_C | -0.0294 | 0.1004 | **-0.0339** | -0.0262 | 0.1127 | -0.0323 |
| rc1_4_5_fsm_A | -0.0094 | 0.0487 | **-0.0109** | -0.0010 | 0.0634 | -0.0045 |
| rc1_4_5_fsm_C | -0.0218 | 0.0458 | **-0.0219** | -0.0209 | 0.0490 | -0.0202 |
| rc1_4_6_fsm_A | -0.0122 | 0.0739 | **-0.0127** | -0.0034 | 0.0810 | -0.009 |
| rc1_4_6_fsm_C | -0.0345 | 0.0347 | **-0.0372** | -0.031 | 0.0518 | -0.0302 |
| rc1_4_7_fsm_A | -0.0129 | 0.0806 | **-0.0301** | -0.0097 | 0.0897 | -0.0176 |
| rc1_4_7_fsm_C | -0.0322 | 0.0679 | **-0.0348** | -0.0277 | 0.0798 | -0.0307 |
| rc1_4_8_fsm_A | -0.0279 | 0.0921 | **-0.0358** | -0.0267 | 0.1056 | -0.0324 |
| rc1_4_8_fsm_C | -0.0403 | 0.0830 | **-0.0418** | -0.0374 | 0.0956 | -0.0384 |
| rc1_4_9_fsm_A | -0.0284 | 0.0687 | **-0.0338** | -0.0246 | 0.0862 | -0.0316 |
| rc1_4_9_fsm_C | -0.0402 | 0.0760 | **-0.0429** | -0.0372 | 0.0863 | -0.0384 |
| rc1_6_10_fsm_A | -0.0234 | 0.0911 | **-0.0283** | -0.0196 | 0.1014 | -0.0165 |
| rc1_6_10_fsm_C | -0.0315 | 0.0930 | **-0.0371** | -0.0245 | 0.1027 | -0.0301 |
| rc1_6_1_fsm_A | **-0.0166** | 0.0310 | 0.0107 | -0.0077 | 0.0376 | 0.0157 |
| rc1_6_1_fsm_C | -0.0361 | 0.0126 | **-0.0428** | -0.0305 | 0.0267 | -0.0348 |
| rc1_6_2_fsm_A | -0.0286 | 0.0846 | **-0.0345** | -0.0242 | 0.0920 | -0.0044 |
| rc1_6_2_fsm_C | **-0.048** | 0.0711 | -0.0433 | -0.0413 | 0.0873 | -0.0370 |
| rc1_6_3_fsm_A | **-0.0219** | 0.0841 | -0.0217 | -0.0168 | 0.0970 | -0.0096 |
| rc1_6_3_fsm_C | -0.0390 | 0.0962 | **-0.0449** | -0.0323 | 0.1162 | -0.0356 |
| rc1_6_4_fsm_A | -0.0133 | 0.0639 | **-0.021** | -0.0091 | 0.0811 | -0.0183 |
| rc1_6_4_fsm_C | -0.0312 | 0.0755 | **-0.0371** | -0.0238 | 0.0952 | -0.0328 |
| rc1_6_5_fsm_A | **-0.0238** | 0.0503 | 0.0034 | -0.0154 | 0.0616 | 0.0097 |
| rc1_6_5_fsm_C | **-0.0399** | 0.0418 | -0.0375 | -0.0243 | 0.0514 | -0.0218 |
| rc1_6_6_fsm_A | **-0.0212** | 0.0711 | 0.0018 | -0.0131 | 0.0786 | 0.0197 |
| rc1_6_6_fsm_C | **-0.0306** | 0.0656 | -0.0271 | -0.0278 | 0.0835 | -0.0100 |
| rc1_6_7_fsm_A | **-0.0185** | 0.0862 | 0.0056 | -0.0128 | 0.0974 | 0.0238 |
| rc1_6_7_fsm_C | **-0.0427** | 0.0602 | -0.0407 | -0.0352 | 0.0810 | -0.0276 |
| rc1_6_8_fsm_A | -0.0222 | 0.0906 | **-0.0255** | -0.0134 | 0.0977 | -0.0128 |
| rc1_6_8_fsm_C | -0.0394 | 0.0944 | **-0.0454** | -0.0355 | 0.1082 | -0.0347 |
| rc1_6_9_fsm_A | -0.0226 | 0.0967 | **-0.0266** | -0.0156 | 0.1039 | -0.0169 |
| rc1_6_9_fsm_C | -0.0405 | 0.0938 | **-0.0468** | -0.0376 | 0.1122 | -0.0405 |
| rc1_8_10_fsm_A | -0.0281 | 0.0858 | **-0.0311** | -0.0196 | 0.0938 | -0.0212 |
| rc1_8_10_fsm_C | -0.0509 | 0.0660 | **-0.055** | -0.0437 | 0.0811 | -0.0454 |
| rc1_8_1_fsm_A | **-0.0185** | 0.0447 | -0.0007 | -0.0133 | 0.0562 | 0.0166 |
| rc1_8_1_fsm_C | 0.1094 | 0.2121 | **0.1059** | 0.1225 | 0.2228 | 0.1217 |
| rc1_8_2_fsm_A | **-0.0308** | 0.0555 | -0.0146 | -0.0237 | 0.0733 | 0.0067 |
| rc1_8_2_fsm_C | -0.1295 | -0.0538 | **-0.1382** | -0.1250 | -0.0264 | -0.1261 |
| rc1_8_3_fsm_A | **-0.0205** | 0.0730 | -0.0056 | -0.0103 | 0.0869 | 0.0048 |
| rc1_8_3_fsm_C | **-0.097** | 0.0132 | -0.0969 | -0.0878 | 0.0315 | -0.0923 |
| rc1_8_4_fsm_A | -0.0149 | 0.0647 | **-0.023** | -0.0125 | 0.0847 | -0.021 |
| rc1_8_4_fsm_C | **-0.1025** | 0.0024 | -0.1020 | -0.0973 | 0.0126 | -0.0985 |
| rc1_8_5_fsm_A | **-0.0302** | 0.0635 | -0.0099 | -0.0243 | 0.0714 | -0.0005 |
| rc1_8_5_fsm_C | **0.152** | 0.2631 | 0.1697 | 0.1622 | 0.2799 | 0.1809 |
| rc1_8_6_fsm_A | **-0.0424** | 0.0740 | 0.0037 | -0.0294 | 0.0852 | 0.0127 |
| rc1_8_6_fsm_C | **-0.0655** | 0.0720 | -0.0504 | -0.0557 | 0.0787 | -0.0405 |
| rc1_8_7_fsm_A | **-0.0297** | 0.0864 | -0.0201 | -0.0237 | 0.0982 | 0.0048 |
| rc1_8_7_fsm_C | **-0.0709** | 0.0589 | -0.0531 | -0.0624 | 0.0658 | -0.0395 |
| rc1_8_8_fsm_A | **-0.0184** | 0.0989 | -0.0147 | -0.0149 | 0.1040 | 0.0095 |
| rc1_8_8_fsm_C | -0.0672 | 0.0607 | **-0.0722** | -0.0595 | 0.0706 | -0.0633 |
| rc1_8_9_fsm_A | **-0.0305** | 0.0958 | -0.0150 | -0.0217 | 0.0983 | 0.0089 |
| rc1_8_9_fsm_C | -0.0424 | 0.0955 | **-0.0476** | -0.0356 | 0.1025 | -0.0350 |
| rc2_10_10_fsm_A | -0.1168 | -0.0679 | **-0.1245** | -0.0996 | -0.0621 | -0.1007 |

Table 2: (continued)

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| rc2_10_10_fsm_C | -0.0944 | -0.0927 | **-0.113** | -0.0786 | -0.0829 | -0.1008 |
| rc2_10_1_fsm_A | -0.1152 | -0.1068 | **-0.1429** | -0.1052 | -0.1001 | -0.1372 |
| rc2_10_1_fsm_C | -0.0587 | -0.0702 | **-0.0748** | -0.0526 | -0.0653 | -0.0715 |
| rc2_10_2_fsm_A | -0.1158 | -0.1180 | **-0.1363** | -0.1070 | -0.1100 | -0.1242 |
| rc2_10_2_fsm_C | -0.0645 | -0.0801 | **-0.0846** | -0.0608 | -0.0743 | -0.0784 |
| rc2_10_3_fsm_A | -0.0854 | -0.0616 | **-0.1039** | -0.0743 | -0.0495 | -0.0921 |
| rc2_10_3_fsm_C | -0.0666 | -0.0780 | **-0.0857** | -0.0640 | -0.0740 | -0.0822 |
| rc2_10_4_fsm_A | **-0.1089** | -0.0516 | -0.1042 | -0.0986 | -0.0294 | -0.1038 |
| rc2_10_4_fsm_C | -0.0922 | -0.0551 | **-0.1059** | -0.0784 | -0.0394 | -0.0982 |
| rc2_10_5_fsm_A | -0.1529 | **-0.1604** | -0.1533 | -0.1469 | -0.1566 | -0.1468 |
| rc2_10_5_fsm_C | -0.0761 | -0.0865 | **-0.0923** | -0.0704 | -0.0847 | -0.0904 |
| rc2_10_6_fsm_A | -0.1414 | **-0.1631** | -0.1416 | -0.1293 | -0.15 | -0.1246 |
| rc2_10_6_fsm_C | -0.0789 | -0.0858 | **-0.0908** | -0.0739 | -0.0805 | -0.0856 |
| rc2_10_7_fsm_A | -0.1570 | -0.1693 | **-0.174** | -0.1405 | -0.165 | -0.1507 |
| rc2_10_7_fsm_C | -0.0868 | -0.1033 | **-0.1065** | -0.0798 | -0.0987 | -0.1018 |
| rc2_10_8_fsm_A | -0.1642 | -0.1645 | **-0.1696** | -0.1542 | -0.1521 | -0.1488 |
| rc2_10_8_fsm_C | -0.0857 | -0.1008 | **-0.1146** | -0.0795 | -0.0948 | -0.1117 |
| rc2_10_9_fsm_A | -0.1147 | -0.0866 | **-0.1176** | -0.1019 | -0.0796 | -0.0932 |
| rc2_10_9_fsm_C | -0.0834 | -0.0889 | **-0.1041** | -0.0788 | -0.0847 | -0.098 |
| rc2_2_10_fsm_A | -0.0901 | -0.0890 | **-0.1007** | -0.0855 | -0.0850 | -0.1005 |
| rc2_2_10_fsm_C | -0.0161 | **-0.0268** | -0.0244 | -0.0112 | -0.016 | -0.0139 |
| rc2_2_1_fsm_A | -0.0594 | 0.0125 | **-0.0821** | -0.0541 | 0.0303 | -0.0686 |
| rc2_2_1_fsm_C | -0.0083 | 0.0352 | **-0.02** | -0.0039 | 0.0385 | -0.018 |
| rc2_2_2_fsm_A | -0.0731 | 0.0076 | **-0.1032** | -0.0632 | 0.0224 | -0.0984 |
| rc2_2_2_fsm_C | -0.0321 | -0.0074 | **-0.0376** | -0.0249 | 0.0005 | -0.0323 |
| rc2_2_3_fsm_A | -0.0372 | 0.0309 | **-0.0439** | -0.0288 | 0.0378 | -0.0398 |
| rc2_2_3_fsm_C | -0.0364 | -0.0157 | **-0.0472** | -0.0300 | 0.0001 | -0.0432 |
| rc2_2_4_fsm_A | **-0.0181** | -0.0091 | -0.0146 | -0.0016 | 0.0272 | -0.0016 |
| rc2_2_4_fsm_C | -0.0308 | 0.0023 | **-0.0358** | -0.0251 | 0.0110 | -0.0346 |
| rc2_2_5_fsm_A | -0.0717 | -0.0446 | **-0.1112** | -0.0587 | -0.0172 | -0.0904 |
| rc2_2_5_fsm_C | -0.0281 | -0.0124 | **-0.0419** | -0.0238 | 0.0135 | -0.0311 |
| rc2_2_6_fsm_A | -0.0556 | -0.0338 | **-0.1043** | -0.0480 | -0.0017 | -0.0779 |
| rc2_2_6_fsm_C | -0.0369 | -0.0242 | **-0.0388** | -0.0283 | -0.0236 | -0.0335 |
| rc2_2_7_fsm_A | -0.0485 | -0.0056 | **-0.0704** | -0.0412 | 0.0002 | -0.0593 |
| rc2_2_7_fsm_C | -0.0446 | -0.0153 | **-0.0498** | -0.0268 | -0.0098 | -0.04 |
| rc2_2_8_fsm_A | -0.0563 | 0.0009 | **-0.0731** | -0.0382 | 0.0115 | -0.0603 |
| rc2_2_8_fsm_C | -0.0344 | -0.0238 | **-0.0516** | -0.0266 | -0.0222 | -0.0417 |
| rc2_2_9_fsm_A | -0.0725 | 0.0190 | **-0.0956** | -0.0414 | 0.0312 | -0.0711 |
| rc2_2_9_fsm_C | -0.0470 | -0.0377 | **-0.0559** | -0.0422 | -0.0301 | -0.0502 |
| rc2_4_10_fsm_A | -0.0967 | -0.0848 | **-0.1242** | -0.0853 | -0.0541 | -0.1116 |
| rc2_4_10_fsm_C | -0.0596 | -0.0683 | **-0.0788** | -0.0468 | -0.0523 | -0.0708 |
| rc2_4_1_fsm_A | -0.0630 | -0.0041 | **-0.1133** | -0.0530 | 0.0082 | -0.0934 |
| rc2_4_1_fsm_C | -0.0334 | -0.0051 | **-0.0377** | -0.0264 | -0.0019 | -0.028 |
| rc2_4_2_fsm_A | -0.0585 | 0.0404 | **-0.0883** | -0.0436 | 0.0531 | -0.0655 |
| rc2_4_2_fsm_C | -0.0309 | -0.0113 | **-0.0368** | -0.0178 | -0.0016 | -0.0339 |
| rc2_4_3_fsm_A | -0.0736 | -0.0126 | **-0.1055** | -0.0564 | 0.0161 | -0.0866 |
| rc2_4_3_fsm_C | -0.0648 | -0.0454 | **-0.0709** | -0.0565 | -0.0398 | -0.0674 |
| rc2_4_4_fsm_A | -0.0422 | 0.0212 | **-0.0584** | -0.0225 | 0.0349 | -0.0483 |
| rc2_4_4_fsm_C | -0.0648 | -0.0513 | **-0.0677** | -0.0589 | -0.0200 | -0.0655 |
| rc2_4_5_fsm_A | -0.1047 | -0.0358 | **-0.1465** | -0.0950 | -0.0250 | -0.1314 |
| rc2_4_5_fsm_C | -0.0557 | -0.0447 | **-0.0661** | -0.0484 | -0.0403 | -0.0605 |
| rc2_4_6_fsm_A | -0.0714 | -0.0405 | **-0.115** | -0.0662 | -0.0221 | -0.1035 |
| rc2_4_6_fsm_C | -0.0527 | -0.0493 | **-0.0611** | -0.0476 | -0.0393 | -0.0553 |
| rc2_4_7_fsm_A | -0.0984 | -0.0838 | **-0.1621** | -0.0859 | -0.0583 | -0.1409 |
| rc2_4_7_fsm_C | -0.0377 | -0.0562 | **-0.0612** | -0.0324 | -0.0469 | -0.0572 |
| rc2_4_8_fsm_A | -0.1008 | -0.0720 | **-0.1578** | -0.0853 | -0.0623 | -0.1283 |
| rc2_4_8_fsm_C | -0.0559 | -0.0575 | **-0.071** | -0.0513 | -0.0528 | -0.0645 |
| rc2_4_9_fsm_A | -0.0790 | -0.0726 | **-0.11** | -0.0734 | -0.0344 | -0.0932 |
| rc2_4_9_fsm_C | -0.0709 | -0.0908 | **-0.0975** | -0.0596 | -0.0729 | -0.0866 |
| rc2_6_10_fsm_A | -0.0901 | -0.0595 | **-0.0955** | -0.0831 | -0.0354 | -0.0866 |
| rc2_6_10_fsm_C | -0.0875 | -0.0889 | **-0.1011** | -0.0740 | -0.0844 | -0.095 |
| rc2_6_1_fsm_A | -0.0935 | -0.0705 | **-0.1262** | -0.0825 | -0.0581 | -0.1068 |
| rc2_6_1_fsm_C | -0.0406 | -0.0433 | **-0.047** | -0.0370 | -0.0389 | -0.0379 |
| rc2_6_2_fsm_A | -0.1057 | -0.0879 | **-0.1518** | -0.1015 | -0.0661 | -0.1421 |
| rc2_6_2_fsm_C | -0.0337 | -0.0428 | **-0.0505** | -0.0281 | -0.0325 | -0.0451 |
| rc2_6_3_fsm_A | -0.1087 | -0.0634 | **-0.1328** | -0.0964 | -0.0491 | -0.1291 |
| rc2_6_3_fsm_C | -0.0475 | -0.0517 | **-0.0678** | -0.0405 | -0.0454 | -0.0612 |
| rc2_6_4_fsm_A | -0.0968 | -0.0373 | **-0.1096** | -0.0766 | 0.0024 | -0.1023 |
| rc2_6_4_fsm_C | -0.0642 | -0.0227 | **-0.0801** | -0.0560 | -0.0126 | -0.0686 |
| rc2_6_5_fsm_A | -0.0940 | -0.0964 | **-0.1347** | -0.0908 | -0.0773 | -0.1189 |
| rc2_6_5_fsm_C | -0.0484 | -0.0486 | **-0.0599** | -0.0440 | -0.0442 | -0.0551 |
| rc2_6_6_fsm_A | -0.1368 | -0.1492 | **-0.1761** | -0.1298 | -0.1472 | -0.1586 |

Table 2: (continued)

| | Minimum Error Gap | | | Mean Error Gap | | |
|---|---|---|---|---|---|---|
| | DRSCI | GSPI | PyVRP | DRSCI | GSPI | PyVRP |
| rc2_6_6_fsm_C | -0.0652 | -0.0703 | **-0.0776** | -0.0594 | -0.0646 | -0.0725 |
| rc2_6_7_fsm_A | -0.1352 | -0.1575 | **-0.1631** | -0.1229 | -0.1319 | -0.1424 |
| rc2_6_7_fsm_C | -0.0593 | -0.0699 | **-0.082** | -0.0496 | -0.0664 | -0.0749 |
| rc2_6_8_fsm_A | -0.1403 | **-0.1436** | -0.1316 | -0.1166 | -0.1169 | -0.1249 |
| rc2_6_8_fsm_C | -0.0666 | -0.0918 | **-0.095** | -0.0582 | -0.0835 | -0.0871 |
| rc2_6_9_fsm_A | -0.1052 | -0.0721 | **-0.1288** | -0.0991 | -0.0648 | -0.0974 |
| rc2_6_9_fsm_C | -0.0716 | **-0.093** | -0.0923 | -0.0632 | -0.0821 | -0.0863 |
| rc2_8_10_fsm_A | -0.1117 | -0.0795 | **-0.1598** | -0.1066 | -0.0639 | -0.1271 |
| rc2_8_10_fsm_C | -0.0835 | -0.0955 | **-0.1136** | -0.0748 | -0.0871 | -0.1053 |
| rc2_8_1_fsm_A | -0.0948 | -0.0666 | **-0.1169** | -0.0831 | -0.0606 | -0.1157 |
| rc2_8_1_fsm_C | -0.0499 | -0.0537 | **-0.06** | -0.0428 | -0.0495 | -0.0524 |
| rc2_8_2_fsm_A | -0.1092 | -0.0656 | **-0.1242** | -0.0911 | -0.0579 | -0.1075 |
| rc2_8_2_fsm_C | -0.0515 | -0.0515 | **-0.0616** | -0.0464 | -0.0451 | -0.0507 |
| rc2_8_3_fsm_A | -0.1047 | -0.0864 | **-0.1434** | -0.0936 | -0.0731 | -0.1335 |
| rc2_8_3_fsm_C | -0.0588 | -0.0708 | **-0.0742** | -0.0551 | -0.0642 | -0.0707 |
| rc2_8_4_fsm_A | -0.0966 | -0.0512 | **-0.1158** | -0.0782 | -0.0276 | -0.1044 |
| rc2_8_4_fsm_C | -0.0673 | -0.0281 | **-0.0854** | -0.0589 | -0.0206 | -0.0779 |
| rc2_8_5_fsm_A | -0.1319 | -0.1099 | **-0.1456** | -0.1149 | -0.1048 | -0.138 |
| rc2_8_5_fsm_C | -0.0486 | -0.0586 | **-0.0619** | -0.0452 | -0.0548 | -0.0581 |
| rc2_8_6_fsm_A | -0.1110 | **-0.1231** | -0.1224 | -0.1017 | -0.1152 | -0.1100 |
| rc2_8_6_fsm_C | -0.0675 | -0.0787 | **-0.0806** | -0.0631 | -0.0760 | -0.0773 |
| rc2_8_7_fsm_A | -0.1263 | -0.1332 | **-0.1685** | -0.1129 | -0.1213 | -0.1464 |
| rc2_8_7_fsm_C | -0.0744 | -0.0855 | **-0.0878** | -0.0652 | -0.0809 | -0.0853 |
| rc2_8_8_fsm_A | -0.1285 | -0.1246 | **-0.1588** | -0.1158 | -0.1055 | -0.1205 |
| rc2_8_8_fsm_C | -0.0687 | -0.0828 | **-0.0893** | -0.0646 | -0.0741 | -0.0865 |
| rc2_8_9_fsm_A | -0.1330 | -0.1080 | **-0.1419** | -0.1121 | -0.0979 | -0.1298 |
| rc2_8_9_fsm_C | -0.0611 | -0.0833 | **-0.0946** | -0.0588 | -0.0721 | -0.0878 |

Table 3: Detailed results new HFVRPTW dataset: Minimum and average total costs per instance and solution method. Bolt marks the best result for each instance, and underlined entries denote the best average performance. Notation details: The instance name is divided into segments, each separated by "+". The first segment references the underlying base instance, following the naming convention of Gehring and Homberger (1999). The second segments indicates the number of available vehicle types in the heterogeneous fleet, and the third segment denotes the ratio between fixed and variable costs. Segements 4 and 5 store the values for $\gamma$ and $\sum_{m \in \mathcal{M} \setminus \underline{m}} \kappa_m$ respectively.

| | Minimum Total Costs | | Mean Total Costs | |
|---|---|---|---|---|
| | DRSCI | PyVRP | DRSCI | PyVRP |
| c1_10_1+vt3+fcd-2+ccr-0.8+lva-0.67 | **137517.2066** | 141170.0037 | 137955.8523 | 141663.7313 |
| c1_10_1+vt3+fcd-2+ccr-0.8+lva-0.9 | **130132.7188** | 137345.5138 | 130188.1851 | 137849.0523 |
| c1_10_1+vt3+vcd-2+ccr-0.8+lva-0.67 | **73409.7962** | 75692.3375 | 73524.9454 | 78256.2623 |
| c1_10_1+vt3+vcd-2+ccr-0.8+lva-0.9 | **67806.914** | 70588.3326 | 67993.9563 | 74236.7070 |
| c1_10_1+vt5+fcd-2+ccr-0.8+lva-0.67 | **141336.7918** | 145603.6274 | 141637.7058 | 146676.6596 |
| c1_10_1+vt5+fcd-2+ccr-0.8+lva-0.9 | **134077.529** | 143117.5863 | 134393.4417 | 143192.2731 |
| c1_10_1+vt5+vcd-2+ccr-0.8+lva-0.67 | **75605.6978** | 80965.2095 | 75714.6026 | 81953.2455 |
| c1_10_1+vt5+vcd-2+ccr-0.8+lva-0.9 | **70473.8192** | 76012.9262 | 70614.6373 | 80198.8954 |
| c1_10_4+vt3+fcd-2+ccr-0.8+lva-0.67 | **138512.0057** | 139040.3040 | 138772.8156 | 139906.9791 |
| c1_10_4+vt3+fcd-2+ccr-0.8+lva-0.9 | 130733.5497 | **130033.345** | 130852.6625 | 130560.8827 |
| c1_10_4+vt3+vcd-2+ccr-0.8+lva-0.67 | **72619.6335** | 73415.6453 | 72850.3927 | 73577.1500 |
| c1_10_4+vt3+vcd-2+ccr-0.8+lva-0.9 | 66883.7800 | **66626.1666** | 67032.1793 | 66873.4815 |
| c1_10_4+vt5+fcd-2+ccr-0.8+lva-0.67 | **144774.1401** | 145180.5297 | 144933.2957 | 145980.4142 |
| c1_10_4+vt5+fcd-2+ccr-0.8+lva-0.9 | **137075.0893** | 137648.7977 | 137603.0023 | 138287.6585 |
| c1_10_4+vt5+vcd-2+ccr-0.8+lva-0.67 | **76236.0006** | 77119.3811 | 76579.0868 | 77311.9276 |
| c1_10_4+vt5+vcd-2+ccr-0.8+lva-0.9 | **71128.3327** | 71471.0924 | 71262.3088 | 72262.3156 |
| c2_10_1+vt3+fcd-2+ccr-0.8+lva-0.67 | 56660.1202 | **54207.6441** | 56804.1669 | 55589.1967 |
| c2_10_1+vt3+fcd-2+ccr-0.8+lva-0.9 | 54221.6927 | **52748.8803** | 54598.7272 | 55471.3194 |
| c2_10_1+vt3+vcd-2+ccr-0.8+lva-0.67 | 29123.7371 | **28492.049** | 29182.1599 | 28735.2978 |
| c2_10_1+vt3+vcd-2+ccr-0.8+lva-0.9 | 27787.0985 | **27189.2858** | 27820.3025 | 27495.5706 |
| c2_10_1+vt5+fcd-2+ccr-0.8+lva-0.67 | 56563.6838 | **55866.0588** | 56791.6005 | 57838.7162 |
| c2_10_1+vt5+fcd-2+ccr-0.8+lva-0.9 | **54428.2043** | 55267.3295 | 54629.6278 | 56706.9088 |
| c2_10_1+vt5+vcd-2+ccr-0.8+lva-0.67 | 29736.3514 | **28801.5045** | 29856.4220 | 28942.2436 |
| c2_10_1+vt5+vcd-2+ccr-0.8+lva-0.9 | 28091.1393 | **27390.1889** | 28116.3637 | 28188.6701 |
| c2_10_4+vt3+fcd-2+ccr-0.8+lva-0.67 | 51590.3317 | **49680.5448** | 51694.9041 | 49916.792 |
| c2_10_4+vt3+fcd-2+ccr-0.8+lva-0.9 | 49425.6460 | **46908.9056** | 49592.8965 | 47051.821 |
| c2_10_4+vt3+vcd-2+ccr-0.8+lva-0.67 | 27087.4241 | **25592.8871** | 27105.0048 | 25754.1514 |
| c2_10_4+vt3+vcd-2+ccr-0.8+lva-0.9 | 25628.8170 | **24171.544** | 25794.6147 | 24444.6935 |
| c2_10_4+vt5+fcd-2+ccr-0.8+lva-0.67 | 52805.6088 | **50456.002** | 53319.5130 | 50617.9253 |
| c2_10_4+vt5+fcd-2+ccr-0.8+lva-0.9 | 50142.0909 | **47812.4153** | 50891.3453 | 48388.841 |
| c2_10_4+vt5+vcd-2+ccr-0.8+lva-0.67 | 27807.0460 | **26355.0567** | 27935.4069 | 26443.6319 |
| c2_10_4+vt5+vcd-2+ccr-0.8+lva-0.9 | 26025.7614 | **24720.4376** | 26111.6379 | 24957.9815 |
| r1_10_1+vt3+fcd-2+ccr-0.8+lva-0.67 | 186787.8751 | **179487.5664** | 188131.6998 | 179913.557 |
| r1_10_1+vt3+fcd-2+ccr-0.8+lva-0.9 | 179123.1465 | **173412.9686** | 180828.3801 | 175707.1146 |
| r1_10_1+vt3+vcd-2+ccr-0.8+lva-0.67 | 96243.3785 | **95293.2333** | 96857.8355 | 97422.9765 |
| r1_10_1+vt3+vcd-2+ccr-0.8+lva-0.9 | **90597.8468** | 96074.4945 | 91528.4633 | 96374.9401 |
| r1_10_1+vt5+fcd-2+ccr-0.8+lva-0.67 | 188617.7960 | **182864.3596** | 190508.5405 | 183328.5411 |
| r1_10_1+vt5+fcd-2+ccr-0.8+lva-0.9 | 183049.7307 | **175402.5769** | 183803.2080 | 176251.8907 |
| r1_10_1+vt5+vcd-2+ccr-0.8+lva-0.67 | 98739.1577 | **98106.1717** | 99895.5714 | 99300.6382 |
| r1_10_1+vt5+vcd-2+ccr-0.8+lva-0.9 | **93829.6801** | 95676.0882 | 95114.687 | 96898.0197 |
| r1_10_4+vt3+fcd-2+ccr-0.8+lva-0.67 | 152095.4020 | **150622.2034** | 152193.6814 | 150795.7059 |
| r1_10_4+vt3+fcd-2+ccr-0.8+lva-0.9 | 143061.3253 | **140793.5326** | 143281.1625 | 141229.1842 |
| r1_10_4+vt3+vcd-2+ccr-0.8+lva-0.67 | 79177.1636 | **78380.3202** | 79517.3381 | 78677.5319 |
| r1_10_4+vt3+vcd-2+ccr-0.8+lva-0.9 | 73964.7603 | **72497.0084** | 74266.8923 | 72782.5667 |
| r1_10_4+vt5+fcd-2+ccr-0.8+lva-0.67 | 155804.8222 | **154142.8792** | 155960.4954 | 154378.0799 |
| r1_10_4+vt5+fcd-2+ccr-0.8+lva-0.9 | 147354.2543 | **145632.4178** | 147598.7496 | 145996.9367 |
| r1_10_4+vt5+vcd-2+ccr-0.8+lva-0.67 | 82412.6197 | **81534.5673** | 82784.2868 | 81843.2918 |
| r1_10_4+vt5+vcd-2+ccr-0.8+lva-0.9 | 76728.6024 | **75692.913** | 77056.5028 | 76053.169 |
| r2_10_1+vt3+fcd-2+ccr-0.8+lva-0.67 | 86124.7993 | **82127.2906** | 86761.1157 | 82422.6019 |
| r2_10_1+vt3+fcd-2+ccr-0.8+lva-0.9 | 86169.4489 | **82907.6428** | 86561.7451 | 83237.2497 |
| r2_10_1+vt3+vcd-2+ccr-0.8+lva-0.67 | 51393.3710 | **49021.4354** | 51883.9848 | 49105.9295 |
| r2_10_1+vt3+vcd-2+ccr-0.8+lva-0.9 | 51617.3342 | **48893.5766** | 52274.9294 | 48975.8772 |
| r2_10_1+vt5+fcd-2+ccr-0.8+lva-0.67 | 86297.2009 | **81975.6034** | 87032.5177 | 82575.5945 |
| r2_10_1+vt5+fcd-2+ccr-0.8+lva-0.9 | 85257.2830 | **82102.8751** | 86559.7493 | 82409.4556 |
| r2_10_1+vt5+vcd-2+ccr-0.8+lva-0.67 | 51800.9819 | **49015.6927** | 52388.4844 | 49076.6773 |
| r2_10_1+vt5+vcd-2+ccr-0.8+lva-0.9 | 51602.8814 | **48878.361** | 52171.5829 | 49081.7221 |
| r2_10_4+vt3+fcd-2+ccr-0.8+lva-0.67 | 59746.6000 | **57016.0212** | 59861.6360 | 57146.9587 |
| r2_10_4+vt3+fcd-2+ccr-0.8+lva-0.9 | 57737.1353 | **54934.7831** | 58519.7691 | 55074.796 |
| r2_10_4+vt3+vcd-2+ccr-0.8+lva-0.67 | 30196.6103 | **28415.5097** | 30441.6465 | 28484.1673 |
| r2_10_4+vt3+vcd-2+ccr-0.8+lva-0.9 | 29257.4616 | **27517.1528** | 29287.2487 | 27580.4773 |
| r2_10_4+vt5+fcd-2+ccr-0.8+lva-0.67 | 60774.4599 | **57676.8915** | 60935.4240 | 57717.1234 |
| r2_10_4+vt5+fcd-2+ccr-0.8+lva-0.9 | 58842.9028 | **55551.2496** | 59822.0612 | 55674.5378 |
| r2_10_4+vt5+vcd-2+ccr-0.8+lva-0.67 | 30935.8146 | **28705.6977** | 31143.0586 | 28853.7759 |
| r2_10_4+vt5+vcd-2+ccr-0.8+lva-0.9 | 30061.4072 | **27868.4996** | 30161.2000 | 28127.5491 |
| rc1_10_1+vt3+fcd-2+ccr-0.8+lva-0.67 | 163166.4683 | **161117.0641** | 163927.4056 | 161817.5564 |
| rc1_10_1+vt3+fcd-2+ccr-0.8+lva-0.9 | 153002.7710 | **152277.0256** | 153376.7884 | 153127.4627 |

Table 3: (continued)

| | Minimum Total Costs | | Mean Total Costs | |
|---|---|---|---|---|
| | DRSCI | PyVRP | DRSCI | PyVRP |
| rc1_10_1+vt3+vcd-2+ccr-0.8+lva-0.67 | 84360.8054 | **83404.8858** | 84546.0943 | 84317.8954 |
| rc1_10_1+vt3+vcd-2+ccr-0.8+lva-0.9 | 78789.7908 | **78487.6881** | 78958.1608 | 80523.5357 |
| rc1_10_1+vt5+fcd-2+ccr-0.8+lva-0.67 | 166221.3626 | **165155.235** | 167115.3974 | 165498.4496 |
| rc1_10_1+vt5+fcd-2+ccr-0.8+lva-0.9 | 157555.7869 | **156316.1984** | 158168.1181 | 157332.0958 |
| rc1_10_1+vt5+vcd-2+ccr-0.8+lva-0.67 | **86873.3457** | 87730.1871 | 87060.0355 | 88362.4997 |
| rc1_10_1+vt5+vcd-2+ccr-0.8+lva-0.9 | **81046.8779** | 82571.5934 | 81353.2632 | 83967.3815 |
| rc1_10_4+vt3+fcd-2+ccr-0.8+lva-0.67 | 147433.9664 | **146120.5168** | 147750.3740 | 146275.2175 |
| rc1_10_4+vt3+fcd-2+ccr-0.8+lva-0.9 | 138699.1355 | **136647.2525** | 138877.5790 | 137027.3218 |
| rc1_10_4+vt3+vcd-2+ccr-0.8+lva-0.67 | 76910.2720 | **76457.8368** | 77284.1196 | 76703.1516 |
| rc1_10_4+vt3+vcd-2+ccr-0.8+lva-0.9 | 71021.9856 | **69785.1054** | 71459.1735 | 70116.1465 |
| rc1_10_4+vt5+fcd-2+ccr-0.8+lva-0.67 | 150627.3236 | **149016.9824** | 151140.9246 | 149550.1508 |
| rc1_10_4+vt5+fcd-2+ccr-0.8+lva-0.9 | 142145.7149 | **141034.4903** | 142628.5762 | 141713.1527 |
| rc1_10_4+vt5+vcd-2+ccr-0.8+lva-0.67 | 79874.0795 | **78736.4961** | 80343.3902 | 79100.5278 |
| rc1_10_4+vt5+vcd-2+ccr-0.8+lva-0.9 | 74227.8748 | **72888.3944** | 74428.0852 | 73520.6223 |
| rc2_10_1+vt3+fcd-2+ccr-0.8+lva-0.67 | 75404.5610 | **69822.3761** | 76126.6562 | 71215.0143 |
| rc2_10_1+vt3+fcd-2+ccr-0.8+lva-0.9 | 73560.9401 | **72150.4476** | 73615.1688 | 72495.6539 |
| rc2_10_1+vt3+vcd-2+ccr-0.8+lva-0.67 | 41232.9601 | **39514.7508** | 41558.3558 | 39873.0473 |
| rc2_10_1+vt3+vcd-2+ccr-0.8+lva-0.9 | 41040.6265 | **40156.4984** | 41094.2788 | 40198.8219 |
| rc2_10_1+vt5+fcd-2+ccr-0.8+lva-0.67 | 74117.9294 | **71064.7805** | 74856.3391 | 72170.2847 |
| rc2_10_1+vt5+fcd-2+ccr-0.8+lva-0.9 | 73693.3218 | **68882.5392** | 73867.3517 | 70558.2142 |
| rc2_10_1+vt5+vcd-2+ccr-0.8+lva-0.67 | 40828.3045 | **39850.4073** | 41089.5619 | 39998.9792 |
| rc2_10_1+vt5+vcd-2+ccr-0.8+lva-0.9 | 40823.0178 | **38998.0988** | 41190.7715 | 39669.5202 |
| rc2_10_4+vt3+fcd-2+ccr-0.8+lva-0.67 | 53107.8292 | **51804.6645** | 53250.5589 | 51921.2216 |
| rc2_10_4+vt3+fcd-2+ccr-0.8+lva-0.9 | 50923.4238 | **49787.9043** | 51380.8873 | 49854.177 |
| rc2_10_4+vt3+vcd-2+ccr-0.8+lva-0.67 | 26906.7365 | **25739.0622** | 27074.1794 | 25765.1488 |
| rc2_10_4+vt3+vcd-2+ccr-0.8+lva-0.9 | 25885.3244 | **24718.5461** | 25938.0465 | 24780.4153 |
| rc2_10_4+vt5+fcd-2+ccr-0.8+lva-0.67 | 54261.9231 | **51534.3176** | 54932.5515 | 51611.5726 |
| rc2_10_4+vt5+fcd-2+ccr-0.8+lva-0.9 | 52551.6101 | **50517.331** | 53116.5865 | 50587.3615 |
| rc2_10_4+vt5+vcd-2+ccr-0.8+lva-0.67 | 27784.2569 | **25755.5997** | 27830.5745 | 25852.055 |
| rc2_10_4+vt5+vcd-2+ccr-0.8+lva-0.9 | 26162.5870 | **25055.7288** | 26448.9435 | 25116.758 |

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