**Calibration of Iterated Local search Tournament for Small Instances**

|  |  |
| --- | --- |
| Parameter |  |
| Fine Local search : FLS | Yes-No |
| PerLen | 1-2-3 |
| Destruction size : PerSol | 1-10-30-50 |
| Loop Size: VNS Loop | 100-200-300 |
| Temperature factor : T | 1-3-5-7 |

We have 288 combinations \* 5 replications for each instance \*162 Instances

**Analysis of Variance**

**Analysis of**

**Variance for RDI -**

**Type III Sums of**

**Squares**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Source* | *Sum of Squares* | *Df* | *Mean Square* | *F-Ratio* | *P-Value* |
| MAIN EFFECTS |  |  |  |  |  |
| A:2LS | 615533. | 1 | 615533. | 1641.47 | 0.0000 |
| B:PerSol | 6.27122E6 | 2 | 3.13561E6 | 8361.85 | 0.0000 |
| C:PerL | 2.73489E6 | 3 | 911628. | 2431.07 | 0.0000 |
| D:VNS | 96063.8 | 2 | 48031.9 | 128.09 | 0.0000 |
| E:Temp | 2721.19 | 3 | 907.065 | 2.42 | 0.0642 |
| INTERACTIONS |  |  |  |  |  |
| AB | 7429.44 | 2 | 3714.72 | 9.91 | 0.0000 |
| AC | 5266.81 | 3 | 1755.6 | 4.68 | 0.0028 |
| AD | 16541.0 | 2 | 8270.5 | 22.06 | 0.0000 |
| AE | 39.4301 | 3 | 13.1434 | 0.04 | 0.9912 |
| BC | 4.73916E6 | 6 | 789861. | 2106.35 | 0.0000 |
| BD | 87655.1 | 4 | 21913.8 | 58.44 | 0.0000 |
| BE | 289.2 | 6 | 48.2 | 0.13 | 0.9928 |
| CD | 106908. | 6 | 17817.9 | 47.52 | 0.0000 |
| CE | 320.55 | 9 | 35.6166 | 0.09 | 0.9997 |
| DE | 436.581 | 6 | 72.7635 | 0.19 | 0.9786 |
| RESIDUAL | 8.74555E7 | 233221 | 374.99 |  |  |
| TOTAL (CORRECTED) | 1.0214E8 | 233279 |  |  |  |

All F-ratios are

based on the

residual mean

square error.

1. **PerLen**

****

1 kills experiments we remove it and repeat

**Analysis of**

**Variance for RDI -**

**Type III Sums of**

**Squares**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Source* | *Sum of Squares* | *Df* | *Mean Square* | *F-Ratio* | *P-Value* |
| MAIN EFFECTS |  |  |  |  |  |
| A:2LS | 473638. | 1 | 473638. | 1921.81 | 0.0000 |
| B:PerLen | 28996.1 | 1 | 28996.1 | 117.65 | 0.0000 |
| C:PerSol | 89677.3 | 3 | 29892.4 | 121.29 | 0.0000 |
| D:VNS | 18521.9 | 2 | 9260.97 | 37.58 | 0.0000 |
| E:Temp | 1754.98 | 3 | 584.994 | 2.37 | 0.0681 |
| INTERACTIONS |  |  |  |  |  |
| AB | 625.396 | 1 | 625.396 | 2.54 | 0.1112 |
| AC | 2095.53 | 3 | 698.509 | 2.83 | 0.0367 |
| AD | 12559.4 | 2 | 6279.7 | 25.48 | 0.0000 |
| AE | 153.521 | 3 | 51.1738 | 0.21 | 0.8912 |
| BC | 127291. | 3 | 42430.3 | 172.16 | 0.0000 |
| BD | 17539.8 | 2 | 8769.9 | 35.58 | 0.0000 |
| BE | 193.33 | 3 | 64.4432 | 0.26 | 0.8532 |
| CD | 51648.0 | 6 | 8608.0 | 34.93 | 0.0000 |
| CE | 553.54 | 9 | 61.5045 | 0.25 | 0.9870 |
| DE | 135.693 | 6 | 22.6155 | 0.09 | 0.9972 |
| RESIDUAL | 3.83164E7 | 155471 | 246.453 |  |  |
| TOTAL (CORRECTED) | 3.91418E7 | 155519 |  |  |  |

All F-ratios are

based on the

residual mean

square error.

1. Second level local search

****

2LS should be considered

1. **PerSol**



PerSol =10 is better

1. **PerLen**

****

PerLen =3

1. **VND**



1. **TEMPERATURE**



Temp= 7 is better

2LS :1

Per\_Len 3

Per\_Sol 10

VNSloop 200

Temperature 7