Crane Simulation Environments

Data-3

**Iteration-1(Dist. Threshold = 4.0, T**xyz **= 0.7, Rrpy = 0.1)**

Mean and SD distances for ground plane before optimization are: 0.302913 0.57784

Mean and SD distances for wall plane-1 before optimization are: 0.327928 0.429472

Mean and SD distances for wall plane-2 before optimization are: 0.450089 0.533285

Mean and SD distances for wall plane-3 before optimization are: 0.636924 0.510225

The global RSS for ground plane before optimization is: 2982.83

The global RSS for ground plane after optimization is: 2263.17

Mean and SD distances for ground plane after optimization are: 0.182424 0.476

The global RSS for wall plane1 before optimization is: 398.979

The global RSS for wall plane1 after optimization is: 306.088

Mean and SD distances for wall plane-1 after optimization are: 0.243001 0.30476

The global RSS for wall plane2 before optimization is: 442.648

The global RSS for wall plane2 after optimization is: 335.326

Mean and SD distances for wall plane-2 after optimization are: 0.306412 0.40998

The global RSS for wall plane3 before optimization is: 363.358

The global RSS for wall plane3 after optimization is: 195.071

Mean and SD distances for wall plane-3 after optimization are: 0.313846 0.30892

**Iteration-2(Dist. Threshold = 2.0, T**xyz **= 0.7, Rrpy = 0.1)**

Mean and SD distances for ground plane before optimization are: 0.0738149 0.193696

Mean and SD distances for wall plane-1 before optimization are: 0.264133 0.244566

Mean and SD distances for wall plane-2 before optimization are: 0.186045 0.141798

Mean and SD distances for wall plane-3 before optimization are: 0.621634 0.452642

The global RSS for ground plane before optimization is: 783.584

The global RSS for ground plane after optimization is: 724.54

Mean and SD distances for ground plane after optimization are: 0.060262 0.180466

The global RSS for wall plane1 before optimization is: 377.122

The global RSS for wall plane1 after optimization is: 262.939

Mean and SD distances for wall plane-1 after optimization are: 0.178205 0.182872

The global RSS for wall plane2 before optimization is: 161.377

The global RSS for wall plane2 after optimization is: 128.153

Mean and SD distances for wall plane-2 after optimization are: 0.136984 0.131826

The global RSS for wall plane3 before optimization is: 447.108

The global RSS for wall plane3 after optimization is: 243.81

Mean and SD distances for wall plane-3 after optimization are: 0.318652 0.290362

**Iteration-3(Dist. Threshold = 1.0, T**xyz **= 0.7, Rrpy = 0.1)**

Mean and SD distances for ground plane before optimization are: 0.0357164 0.0793648

Mean and SD distances for wall plane-1 before optimization are: 0.228744 0.179067

Mean and SD distances for wall plane-2 before optimization are: 0.227577 0.241115

Mean and SD distances for wall plane-3 before optimization are: 0.396288 0.259207

The global RSS for ground plane before optimization is: 289.621

The global RSS for ground plane after optimization is: 238.516

Mean and SD distances for ground plane after optimization are: 0.0235061 0.0633753

The global RSS for wall plane1 before optimization is: 371.662

The global RSS for wall plane1 after optimization is: 233.815

Mean and SD distances for wall plane-1 after optimization are: 0.133077 0.114373

The global RSS for wall plane2 before optimization is: 222.543

The global RSS for wall plane2 after optimization is: 163.737

Mean and SD distances for wall plane-2 after optimization are: 0.169441 0.176495

The global RSS for wall plane3 before optimization is: 366.665

The global RSS for wall plane3 after optimization is: 234.268

Mean and SD distances for wall plane-3 after optimization are: 0.246155 0.196845

**Iteration-4(Dist. Threshold = 0.50, T**xyz **= 0.7, Rrpy = 0.1)**

Mean and SD distances for ground plane before optimization are: 0.0195885 0.0292165

Mean and SD distances for wall plane-1 before optimization are: 0.175862 0.131182

Mean and SD distances for wall plane-2 before optimization are: 0.137299 0.112769

Mean and SD distances for wall plane-3 before optimization are: 0.208296 0.141068

The global RSS for ground plane before optimization is: 118.244

The global RSS for ground plane after optimization is: 112.103

Mean and SD distances for ground plane after optimization are: 0.0188639 0.0269163

The global RSS for wall plane1 before optimization is: 238.46

The global RSS for wall plane1 after optimization is: 158.478

Mean and SD distances for wall plane-1 after optimization are: 0.105598 0.0892965

The global RSS for wall plane2 before optimization is: 157.441

The global RSS for wall plane2 after optimization is: 149.536

Mean and SD distances for wall plane-2 after optimization are: 0.131278 0.100965

The global RSS for wall plane3 before optimization is: 229.687

The global RSS for wall plane3 after optimization is: 178.344

Mean and SD distances for wall plane-3 after optimization are: 0.167585 0.12563

**Iteration-4(Dist. Threshold = 0.50, T**xyz **= 0.7, Rrpy = 0.1)**

Mean and SD distances for ground plane before optimization are: 0.0185002 0.0148646

Mean and SD distances for wall plane-1 before optimization are: 0.0936278 0.0657478

Mean and SD distances for wall plane-2 before optimization are: 0.107257 0.0682

Mean and SD distances for wall plane-3 before optimization are: 0.114218 0.0753507

The global RSS for ground plane before optimization is: 69.8406

The global RSS for ground plane after optimization is: 62.8906

Mean and SD distances for ground plane after optimization are: 0.0168187 0.0139093

The global RSS for wall plane1 before optimization is: 138.821

The global RSS for wall plane1 after optimization is: 105.925

Mean and SD distances for wall plane-1 after optimization are: 0.0685101 0.0609981

The global RSS for wall plane2 before optimization is: 74.1273

The global RSS for wall plane2 after optimization is: 54.1909

Mean and SD distances for wall plane-2 after optimization are: 0.0805321 0.062395

The global RSS for wall plane3 before optimization is: 45.7839

The global RSS for wall plane3 after optimization is: 41.5084

Mean and SD distances for wall plane-3 after optimization are: 0.103748 0.071948