**Test 1**

Mesh Parameterization Test.

Part I: Mesh generation

mesh information:

the number of vertices: 289

the number of faces: 562

Part II: Mesh decomposition

decomposition informations:

the number of decompositions: 4

the minimum size of all subdomains: 51

the maximum size of all subdomains: 53

the mean size of all subdomains: 52

the size of the edge and wirebasket: 80

mesh size / edge-wirebasket size: 3.612500

Part III: Pretreatment for the parameterization

Part IV: Parameterization using the local-global method

The local-global iteration time is: direct solver: 9, CG solver: 10, PCG solver: 9

The Schur iteration/running time per local-global step of all solvers are given as follows:

Direct Solver CG PCG

\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

Local-Global Iterations 9 10 9

Iterations/Local-Global Step 0 20 9

Running Time/Local Global Step 0.00091767 0.0056982 0.0038275

The RMS error between the solution from direct solver and the solution from the CG solver is 0.007228

The RMS error between the solution from direct solver and the solution from the PCG solver is 0.003232

**Test 2**

Mesh Parameterization Test.

Part I: Mesh generation

mesh information:

the number of vertices: 1089

the number of faces: 2160

Part II: Mesh decomposition

decomposition informations:

the number of decompositions: 4

the minimum size of all subdomains: 232

the maximum size of all subdomains: 236

the mean size of all subdomains: 234

the size of the edge and wirebasket: 153

mesh size / edge-wirebasket size: 7.117647

Part III: Pretreatment for the parameterization

Part IV: Parameterization using the local-global method

The local-global iteration time is: direct solver: 15, CG solver: 13, PCG solver: 16

The Schur iteration/running time per local-global step of all solvers are given as follows:

Direct Solver CG PCG

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Local-Global Iterations 15 13 16

Iterations/Local-Global Step 0 42 11

Running Time/Local Global Step 0.00288 0.031166 0.0090838

The RMS error between the solution from direct solver and the solution from the CG solver is 0.009552

The RMS error between the solution from direct solver and the solution from the PCG solver is 0.002605

**Test 3**

Mesh Parameterization Test.

Part I: Mesh generation

mesh information:

the number of vertices: 4225

the number of faces: 8427

Part II: Mesh decomposition

decomposition informations:

the number of decompositions: 16

the minimum size of all subdomains: 189

the maximum size of all subdomains: 227

the mean size of all subdomains: 212

the size of the edge and wirebasket: 820

mesh size / edge-wirebasket size: 5.152439

Part III: Pretreatment for the parameterization

Part IV: Parameterization using the local-global method

The local-global iteration time is: direct solver: 19, CG solver: 39, PCG solver: 16

The Schur iteration/running time per local-global step of all solvers are given as follows:

Direct Solver CG PCG

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Local-Global Iterations 19 39 16

Iterations/Local-Global Step 0 151 15

Running Time/Local Global Step 0.004972 0.2804 0.048578

The RMS error between the solution from direct solver and the solution from the CG solver is 0.028352

The RMS error between the solution from direct solver and the solution from the PCG solver is 0.002606