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1      subroutine HECMW_SOLVE_SEND_RECV_33                                &
2      &          ( N, NEIBPETOT, NEIBPE, STACK_IMPORT, NOD_IMPORT, &
3      &          STACK_EXPORT, NOD_EXPORT, &
4      &          WS, WR, X, SOLVER_COMM, my_rank)
5
6      integer(kind=kint )          , intent(in)  :: N
7      integer(kind=kint )          , intent(in)  :: NEIBPETOT
8      integer(kind=kint ), pointer :: NEIBPE      (:)
9      integer(kind=kint ), pointer :: STACK_IMPORT(:)
10     integer(kind=kint ), pointer :: NOD_IMPORT  (:)
11     integer(kind=kint ), pointer :: STACK_EXPORT(:)
12     integer(kind=kint ), pointer :: NOD_EXPORT  (:)
13     real  (kind=kreal), dimension(: ), intent(inout):: WS
14     real  (kind=kreal), dimension(: ), intent(inout):: WR
15     real  (kind=kreal), dimension(: ), intent(inout):: X
16     integer(kind=kint )          , intent(in)  :: SOLVER_COMM
17     integer(kind=kint )          , intent(in)  :: my_rank
18
19     !C-- SEND
20     do neib= 1, NEIBPETOT
21         istart= STACK_EXPORT(neib-1)
22         inum  = STACK_EXPORT(neib ) - istart
23         do k= istart+1, istart+inum
24             ii  = 3*NOD_EXPORT(k)
25             WS(3*k-2)= X(ii-2)
26             WS(3*k-1)= X(ii-1)
27             WS(3*k )= X(ii )
28         enddo
29
30         call MPI_ISEND (WS(3*istart+1), 3*inum, MPI_DOUBLE_PRECISION, &
31     &          NEIBPE(neib), 0, SOLVER_COMM, req1(neib), ierr)
32     enddo
33
34     !C-- RECEIVE
35     do neib= 1, NEIBPETOT
36         istart= STACK_IMPORT(neib-1)

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1      inum = STACK_IMPORT(neib ) -  istart
2      call MPI_IRecv (WR(3*istart+1), 3*inum, MPI_DOUBLE_PRECISION,  &
3 &      NEIBPE(neib), 0, SOLVER_COMM, req2(neib), ierr)
4      enddo
5
6      call MPI_WAITALL (NEIBPETOT, req2, sta2, ierr)
7
8      do neib= 1, NEIBPETOT
9          irstart= STACK_IMPORT(neib-1)
10         inum = STACK_IMPORT(neib ) -  irstart
11         do k= irstart+1, irstart+inum
12             ii  = 3*NOD_IMPORT(k)
13             X(ii-2)= WR(3*k-2)
14             X(ii-1)= WR(3*k-1)
15             X(ii )= WR(3*k )
16         enddo
17     enddo
18
19     call MPI_WAITALL (NEIBPETOT, req1, sta1, ierr)
20     deallocate (sta1, sta2, req1, req2)
21
22     end subroutine hecmw_solve_send_recv_33
23
24

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