**neighborProc：**各方向的邻居进程标识数组

**bufsize：**缓冲区大小

**databuf：**用户缓冲区

**win1：**内存共享窗口1

**win2：**内存共享窗口2

**negProc：**沿坐标轴负方向的邻居进程标识

**posProc：**沿坐标轴正方向的邻居进程标识

**negbufAddress：**沿坐标轴负方向的邻居进程缓冲区起始地址

**posbufAddress：**沿坐标轴正方向的邻居进程缓冲区起始地址

**n：**沿坐标轴负方向的通信数据字节数

**m：**沿坐标轴正方向的通信数据字节数

1: **MPI\_Win\_allocate\_shared(…, 1,**

**MPI\_INFO\_NULL, MPI\_COMM\_..., &…, &win1);**

2: **MPI\_Win\_allocate\_shared(bufsize, 1,**

**MPI\_INFO\_NULL, MPI\_COMM\_..., &databuf, &win2);** **//** 开辟内存共享窗口

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3: for(int i=0 ; i < 2; i++ ) //二维体系，两个坐标维度

4: {

5: negProc = neighborProc[2\*i];

6: posProc = neighborProc[2\*i + 1];

7:

8: memcpy(databuf, &n, sizeof(int));

9: memcpy(databuf+sizeof(int), &m, sizeof(int));

10:CopyToBuf(databuf+2\*sizeof(int), n, …);

11:CopyToBuf(databuf+2\*sizeof(int)+n, m, …);

12: **MPI\_Win\_fence(0,win2); //** 同步操作

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13: **MPI\_Win\_shared\_query(win1, negProc, …, &negbufAddress);**

14: **MPI\_Win\_shared\_query(win1, posProc, …, &posbufAddress);**

15: ProcessData(negbufAddress, …);

16: ProcessData(posbufAddress, …);

17:

18: **MPI\_Win\_shared\_query(win2, negProc, …, &negbufAddress);**

19: **MPI\_Win\_shared\_query(win2, posProc, …, &posbufAddress);**

20: memcpy(&n, negbufAddress, sizeof(int));

21: memcpy(&m, negbufAddress+sizeof(int), sizeof(int));

22: ProcessData(negbufAddress+2\*sizeof(int), n+m, …);

23: memcpy(&n, posbufAddress, sizeof(int));

24: memcpy(&m, posbufAddress+sizeof(int), sizeof(int));

25: ProcessData(posbufAddress+2\*sizeof(int), n+m, …);

26: **MPI\_Win\_fence(0,win2); //** 同步操作

27: }

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28: MPI\_Win\_free(&win1);

29: MPI\_Win\_free(&win2);