



(a)

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1: //kernel parameter directive
2: userDef paraVar (double, h0, sizeof (double) * jmt * imt, outonly, dma, j * imt + i);
3: userDef paraVar (double, h0p, sizeof (double) * jmt * imt, readonly, cache, j * imt + i);
4: userDef paraVar (double, work, sizeof (double) * jmt * imt, readonly, cache, j * imt + i);
5: //data redirection directive
6: dataPattern (blockIdx.x * blockDim.x + threadIdx.x,
7:             blockIdx.y * blockDim.y + threadIdx.y, NONE);
8: //CUDA Kernel Funciton
9: __global__ void barotr2_cu1 (double *h0, double *h0p, double *work) {
10:  int j = blockIdx.x * blockDim.x + threadIdx.x;
11:  int i = blockIdx.y * blockDim.y + threadIdx.y;
12:  if (i < imt && j < jmt) {
13:    h0 [j * imt + i] = h0p [j * imt + i] + work [j * imt + i] * dtb;
14:  }
15: }

```

(b)