

```

global__ void cmpFHD(float* rPhi, iPhi, phiMag,
    x, y, z, rMu, iMu, int M) {

int n = blockIdx.x * FHD_THREADS_PER_BLOCK + threadIdx.x;

float xn_r = x[n]; float yn_r = y[n]; float zn_r = z[n];
float rFhDn_r = rFhD[n]; float iFhDn_r = iFhD[n];

for (m = 0; m < M; m++) {
    float expFhD = 2*PI*(k[m].x*xn_r+k[m].y*yn_r+k[m].z*zn_r);

    float cArg = cos(expFhD);
    float sArg = sin(expFhD);

    rFhDn_r += rMu[m]*cArg - iMu[m]*sArg;
    iFhDn_r += iMu[m]*cArg + rMu[m]*sArg;
}
rFhD[n] = rFhDn_r; iFhD[n] = iFhDn_r;
}

```