

```

for (m = 0; m < N; m++) {
  for (n = 0; n < N; n++) {
    expFhD = 2*PI*(kx[m]*x[n] +
                 ky[m]*y[n] +
                 kz[m]*z[n]);

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

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

```

(a) before loop interchange

```

for (n = 0; n < N; n++) {
  for (m = 0; m < N; m++) {
    expFhD = 2*PI*(kx[m]*x[n] +
                 ky[m]*y[n] +
                 kz[m]*z[n]);

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

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

```

(b) after loop interchange