

```

void cenergy(float *energygrid, dim3 grid, float gridspacing, float z, const float *atoms,
            int numatoms) {
    int i,j,n;
    int atomarrdim = numatoms * 4;
    for (j=0; j<grid.y; j++) {
        float y = gridspacing * (float) j;
        for (i=0; i<grid.x; i++) {
            float x = gridspacing * (float) i;
            float energy = 0.0f;
            for (n=0; n<atomarrdim; n+=4) { // calculate potential contribution of each atom
                float dx = x - atoms[n ];
                float dy = y - atoms[n+1];
                float dz = z - atoms[n+2];
                energy += atoms[n+3] / sqrtf(dx*dx + dy*dy + dz*dz);
            }
            energygrid[grid.x*grid.y*k + grid.x*j + i] = energy;
        }
    }
}

```