

# How do I create a dipole using the compact description

Dipoles are parameterized using a simple polynomial fit to vary the B-field in the z direction.

```
<fields>
  <field type="Dipole"
    name="TestDipole"
    zmax="100.0"
    zmin="-100.0"
    rmax="1000.0">
    <dipoleCoeff value="1.0"/>
    <dipoleCoeff value="0.5"/>
  </field>
</fields>
```

The dipole will not be applied if the point is not within the zmin, zmax, and rmax values.

- zmin - minimum z coordinate
- zmax - maximum z coordinate
- rmax - maximum cylindrical radius