



Exercise 2: (Compound) Materials

Beginners' FLUKA Course

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```
mkdir ex2
```

```
cd ex2
```

download the previous ex1.inp and rename it to ex2.inp

```
mv ex1.inp ex2.inp
```

- add two compound materials (water and air) and assign them to the target and the region around it (respectively)

```
emacs [or any editor] ex2.inp &
```

use as components the materials pre-defined in FLUKA

air composition (MASS content):

NITROGEN (0.9256), OXYGEN (0.2837), ARGON (0.01572)

calculate the density of air for standard conditions (22.4l/mol)

run your new ex2.inp in the ex2 dir

```
$FLUPRO/flutil/rfluka -N0 -M3 ex2 &
```

- compare the energy deposited into the target and the region around it, now and in the previous case (ex1 directory)

Do the same for the probability that a primary proton undergoes an inelastic collision (BEAMPART Star Density in the .out file)