



Exercise 1: Basic Input

Beginners FLUKA Course

Exercise 1: Basic Input

Proton beam impinging on a cylinder of pre-def material

Get the source example files from the course website

<http://www.fluka.org/fluka.php?id=course&sub=program&which=mumbai2009>

Download all the **ex1*.inp** files to **ex1** directory

Different input formats:

Filename	Input		Geometry		Comments
ex1.inp	Fixed	Names	Free	Names	RECOMMENDED
ex1free.inp	Free	Names	Free	Names	
ex1fix.inp	Fixed	Numbers	Fixed	Numbers	DEFAULT
ex1double.inp	Fixed	Numbers	Fixed high precision	Numbers	
ex1fixfree.inp	Free	Numbers	Fixed	Numbers	

Exercise 1: Basic Input

run ex1.inp in the ex1 dir

```
$FLUPRO/flutil/rfluka -N0 -M4 ex1 &
```

look at the .out file with less or any other editor e.g. emacs, vi

```
less ex1001.out
```

- ❑ find the inelastic scattering length for beam particles in the target
- ❑ determine how many primaries are needed to have a run (with 4 cycles) lasting in total 240 seconds
- ❑ find the fraction of energy leaving the system
- ❑ calculate the power leaving the system for a beam current of 4mA (in S.I. units)