



# Exercise 7: Importance biasing

Beginners' FLUKA Course

# Exercise 7: Importance biasing

- Create a new directory **ex7** and download the *ex5.inp*, rename it to *ex7.inp*

## Step 1:

- add a 240 cm thick concrete shield around the target
- calculate neutron fluence inside the shield  
*add a region-independent scoring mesh (USRBIN) and create a contour plot with FLAIR*

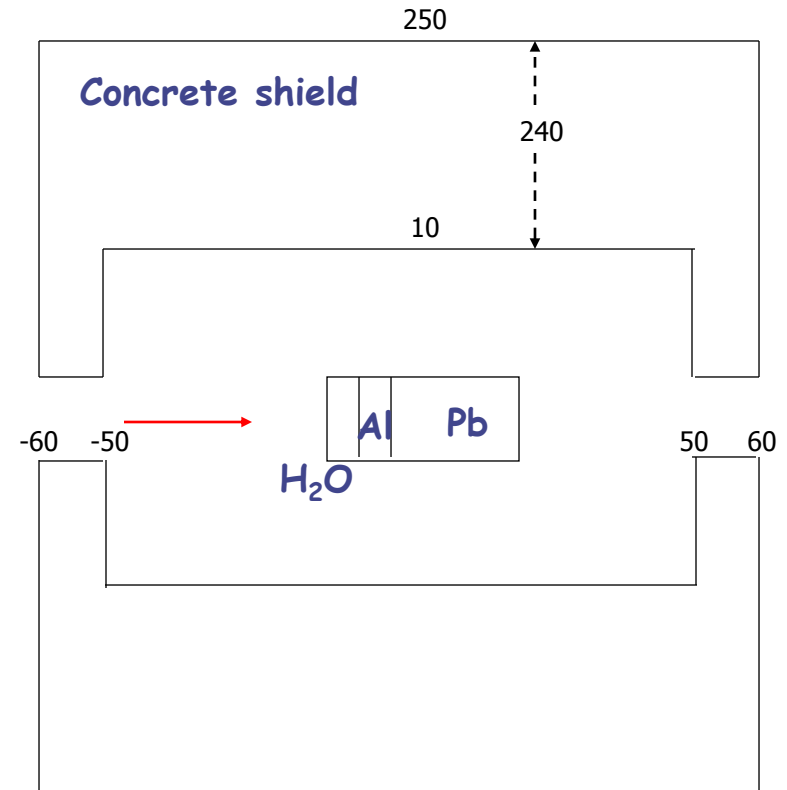
## Step 2:

- split lateral shield into 6 layers of 40 cm thickness each and assign region importance factor to each layer such that the importance increases between adjacent layers by a factor of two
- calculate again the neutron fluence inside the shield, *create contour plot* and compare to case without region importance biasing

Tip: you can create a `#define BIAS` variable and enclose the `BIASING` cards with `#if BIAS...#endif` cards. Then create a second run in the Run Frame with the BIAS disabled

<u>Concrete:</u> (mass fraction)			
Hydrogen	0.01	Aluminum	0.034
Carbon	0.001	Silicon	0.337
Oxygen	0.529	Potassium	0.013
Sodium	0.016	Calcium	0.044
Magnesium	0.002	Iron	0.014

**Density: 2.42g/cm<sup>3</sup>**



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## Result

