Exercise: Heavy ion beams

7th FLUKA Course

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Exercise – Heavy ion beams

- create a folder called ex9, download the solution of ex5 (only ex5.inp) from the website, rename it to ex9.inp and open it in *flair*
- replace the proton beam with an oxygen beam having the same energy per nucleon
- swap the water and lead material assignments (just to save CPU time)
- score the charge spectrum of ions (Z≥3) at the boundaries between Pb and Al, Al and water, and water and air (at z=10cm)

define a dummy cylindrical region 1um thick (5cm radius) between z=9.9999cm and z=10cm

add three USRYIELD detectors with particle charge as the first quantity (from 2.5 to 9.5) and polar lab angle as the second quantity (from 0 to 90 deg), use unformatted unit 90

- score the LET spectrum (in water) of ions (Z≥3) and charged particles at the end of the target

add two USRYIELD detectors with Linear Energy Transfer [given in keV/(um g/cm^3)] as the first quantity (from 0.0 to 20.0) and particle charge as the second quantity (from -2.5 to 9.5), use unformatted unit 89