



Exercise 11: User Routines

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Exercise – User routines

- create a folder called ex11, download the *ex5.inp* input (rename it to ex11.inp). Copy the *source.f* and *magfld.f* user routines from \$FLUPRO/usermvax to ~/work/ex11
- in the source.f routine, sample the proton kinetic energy between 30 and 70 MeV from the a flat energy spectrum
- score differential proton fluence at the target entrance in order to check the beam spectrum (USRBDX)

advanced:

- move the beam axis by 1cm along the y axis and assign vacuum to the first two target segments
- in the magfld.f routine, implement a quadrupole magnetic field of 100 T/m focusing (positive particles) along the horizontal axis
- score integral fluence of positive and negative particles in the target in order to appreciate the magnetic field effect