Defocusing beam line design for an irradiation facility at the TAEA SANAEM Proton Accelerator Facility

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- To perform irradiation tests using 30MeV proton beam @ Ankara, Turkey
- To satisfy space radiation requirements ESA ESCC-25100 standard:
  - Beam size must be enlarged (15.40cm x 21.55cm)
  - Beam flux must be reduced (10⁵ p/cm²/s to at least 10⁸ p/cm²/s)
Turtle Simulations

- Quadrupole magnets $\rightarrow$ enlarge the beam size
- Scattering foils $\rightarrow$ reduce the flux
- Conceptual design is now finalized.
- Technical design report is being prepared.

The irradiation tests can be performed between $3.1 \times 10^7$ p/cm$^2$/s to $1.9 \times 10^9$ p/cm$^2$/s for an area of 15.40cm$x$21.55cm