Exercise on Medical Applications

OMA Monte Carlo school

Exercise: Voxels and Med App

Aim of the exercise:

Nuclear Medicine application

Requirements:

- Import the DICOM CT image and convert it in a VOXEL geometry
- Define ISOTOPE sdum in the BEAM card.
- Define DEFAULTS card with EM-CASCA.
- Define ^{90}Y in the HI-PROPE card (A=90 and Z=39).
- Define a spatially extended source shaped as a sphere using the BEAMPOS card (SDUM = SPHE-VOL).
- Radioactive decays activated in semi-analogue mode (RADDECAY).
- Define Cartesian scoring for absorbed energy via the USRBIN card with the same dimension of the patient CT but with NBINX=NBINY=256.

Run 5 cycles x 100000 primaries each