

Method 1

(Hedberg - Shupe)

Input:

Stardensity maps calculated with GCALOR

$$\text{Contact dose rate} = \omega \cdot \text{Stardensity}$$

30 days irradiation
1 day cooling off

Iron	$1.0 \cdot 10^{-8} \text{ Sv/h} / \text{cm}^{-3} \text{ s}^{-1}$
Copper	1.0
Steel	1.3
Lead	1.5
Tungsten	1.1
Aluminium	0.2
Concrete	0.3
Marble	0.06

Method 2

(Morev et al.)

Input:

Material and geometry description of the experiment

Particle flux maps calculated with GCALOR

Cross sections

Activity:

$$A = n (1 - e^{-T\lambda}) e^{-\lambda t} \int \sigma(E) \phi(E) dE$$

Number of target nuclei

Running time

Decay constant

Cooling-off time

The programs DOT-III and MCNP are used to calculate photon transport.