

Examensarbete i strålningsfysik Degree project in radiation physics

The Leksell Gamma Knife



In cooperation with the company ELEKTA a detailed study of radiation environment around the Gamma Knife will be done. The Knife is equipped with a large number of radioactive sources (^{60}Co) and is used for treatment of tumors and for other types of neurosurgery in the brain. The aim of this study is to obtain a more detailed understanding of gamma-ray energy distribution in the vicinity of the Knife and thereby obtain more relevant values of the dose delivered to the personnel and other persons close to the treatment facility.

The work will include analysis of experimental gamma-ray spectra obtained with a high-resolution germanium detector, Monte Carlo simulations of detector response, and from this obtaining energy distributions. If time permits, calculations of doses will be done.

The length of the work will be 30 hp or 45 hp.

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