NIT Calicut

# Monte Carlo simulation of LINAC for Medical Cancer Treatment planning

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## ABSTRACT


Radiation therapy is a type of cancer treatment that uses beams of intense energy to kill cancer cells. The equipment most often used for the procedure is the Linear Accelerator (LINAC), which produces beams of X-rays. It is required to evaluate the dose distribution of the LINAC machine before applying the radiation therapy to the human body. This project is aimed at achieving the same through the following two tasks -

1. To simulate the production of the radiation beam by the LINAC machine.

2. To simulate the transport of particles in certain configurations of irradiation field to assess the dose distribution for the patient.

The algorithms to evaluate dose distribution for radiotherapy planning will be based on Monte Carlo methods. The project is in collaboration with MV Cancer Center at Calicut, and will be guided and assisted by physicists and doctors from the radiotherapy department at the centre.


## REFERENCES


https://inis.iaea.org/collection/NCLCollectionStore/_Public/46/015/46015552.pdf?r=1&r=1

https://www.biomedcentral.com/collections/PRIMO

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3863207/