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## Scintillation dosimetry with plastic optical fibres

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Radiobiology is a multidisciplinary area where the effects of radiation in cells, tissues and organs are studied. To understand the biological effects of radiation it's important to have a measurement of the energy deposition at the micro or even nano-scale. This project is focused in the development of a detector that offers radiobiology researchers the possibility to achieve real-time dose measurement at the submillimeter scale. The technique chosen resorts to scintillation dosimetry with plastic optical fibres. The optical fibres offer a very good spatial resolution down to 0.25 mm and good tissue equivalence. The detector is built as an irradiation box with a sensitive area composed of an array of plastic optical fibres with the possibility of mapping the dose in one plane or in two orthogonal planes with a spatial resolution of  $1 \times 1 \text{ mm}^2$ ,  $0.5 \times 0.5 \text{ mm}^2$  and  $0.25 \times 0.25 \text{ mm}^2$  depending on the optical fibres used.

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