

Applications of Particle Physics to treatment and monitoring in hadrontherapy

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Hadrontherapy is a therapy modality based on irradiating tumors with beams of atomic nuclei. These nuclei are able to go through the tissues and deposit with high accuracy a high percentage of their energy in a small region, just before being stopped. This behavior allows a highly accurate delimitation of the zone to be irradiated. Hadrontherapy exploits several techniques related to particle physics. This talk illustrates some of these techniques by using the development of a Compton telescope for treatment monitoring that the IRIS group is currently building as a thread connecting the different stages involved in a treatment: from the treatment planning until the final treatment monitoring.