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PT Basics –Physics Perspective

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Particle Therapy Basics –Physics Perspective
The ballistic and radiobiological advantages of proton and light ion beams for external beam therapy, in particular the finite range and the elevated linear energy transfer, respectively, rest upon the Coulomb interaction between the projectiles and the constituents of the targets. While nuclear interactions deliver only a rather minor, but non-negligible, contribution to the dose deposition, they are of high importance for radiation protection and dedicated range measurement techniques in particle therapy. Therefore, the lecture will give an overview on electromagnetic and nuclear interactions of proton and ion beams with matter and their consequences for particle therapy technology.

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