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Towards laser driven hadron cancer radiotherapy: What progress has been made?

It has been known for about sixty years that proton and heavy ion therapy is a very powerful radiation procedure for treating tumors. It has an innate ability to irradiate tumors with greater doses and spatial selectivity compared with electron and photon therapy and hence is a tissue sparing procedure. For more than twenty years powerful lasers have generated high energy beams of protons and heavy ions and hence it has been frequently speculated that lasers could be used as an alternative to RF accelerators to produce the particle beams necessary for cancer therapy. The present talk discusses the progress made towards laser driven hadron cancer therapy and what has still to be accomplished to realize its inherent enormous potential. In addition the use of lasers for cancer diagnostics will also be discussed

Biography

Ken W D Ledingham has completed his PhD from University of Glasgow and Post-doctoral studies from University of Glasgow. He is the Professor of Physics at University of Strathclyde. He is also recognized as William Penney Professor of Laser Nuclear Physics AWE plc.

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