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## **[206] Advantages and challenges of SC magnets in gantries**

*Thursday, 24 August 2017 12:00 (15 minutes)*

The presentation provides an overview of the current developments in superconducting magnets for applications in proton and ion therapy gantries. It summarizes the benefits and challenges regarding the utilization of these magnets from the economical, infrastructural and technical points of view. The options for material choice, magnet geometry, cooling system and beam optics design are reviewed. The challenges of fast magnet ramping and large stray fields are discussed. Also, the examples of currently used superconducting particle therapy systems and proposed designs are provided. The technical benefits and risks of these designs are discussed and the potential new treatment and patient diagnostic options are mentioned.

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