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PET system technology: performance requirements for pre-clinical and clinical imaging

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Title: PET system technology: performance requirements for pre-clinical and clinical imaging.

Duration: 35-40 mins Talk + 5-10 mins Q&A (?)

Abstract: Positron Emission Tomography (PET) imaging constitutes the molecular imaging technique of excellence and is used to evaluate a radio-tracer uptake by an organ or lesion. PET imaging is used in both the clinical (humans) and preclinical (small animal) fields.

The performance requirements for clinical and preclinical PET systems are different since the sizes of the structures to be observed as well as the targeted information provided by the PET images varies from one collective to the other.

In this talk, we will review the mechanical aspects (size, geometry, electronics...) to be considered and main performance parameters in terms of 3D Spatial, Energy and Temporal resolution in clinical and preclinical PET systems. Moreover, a revision of the state-of-the-art PET technology and future trends is provided.

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