



ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ V PRAZE
ÚSTAV TECHNICKÉ A EXPERIMENTÁLNÍ FYZIKY

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POZVÁNKA
na 246. seminář ÚTEF ČVUT
pod záštitou Československé sekce NPSS IEEE

State of the art of Time-of-Flight PET

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Abstract: The principles of TOF PET are introduced, the concept of time resolution and its effect on TOF gain in signal-to-noise ratio are discussed. The characteristics of detectors suitable for TOF PET are presented, and some scintillators are compared in terms of absolute light yield, decay time, energy resolution, and time resolution. A set of performance advantages of TOF is presented with examples: better image quality, shorter scan time, lower dose, higher spatial resolution, lower sensitivity to inconsistent data, and the opportunity for new architectures with missing angles. The recent scientific literature that reports the first experimental evidence of such advantages in oncology clinical data is reviewed. Finally, the directions for a possible improvement of the time resolution of the present generation of TOF PET scanners are discussed.

Seminář se bude konat v úterý 17. dubna 2012 ve 14 hodin
v zasedací místnosti ÚTEF ČVUT, Praha 2 - Albertov, Horská 3a/22

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