Dosímetros de Cintilação Para Radiologia

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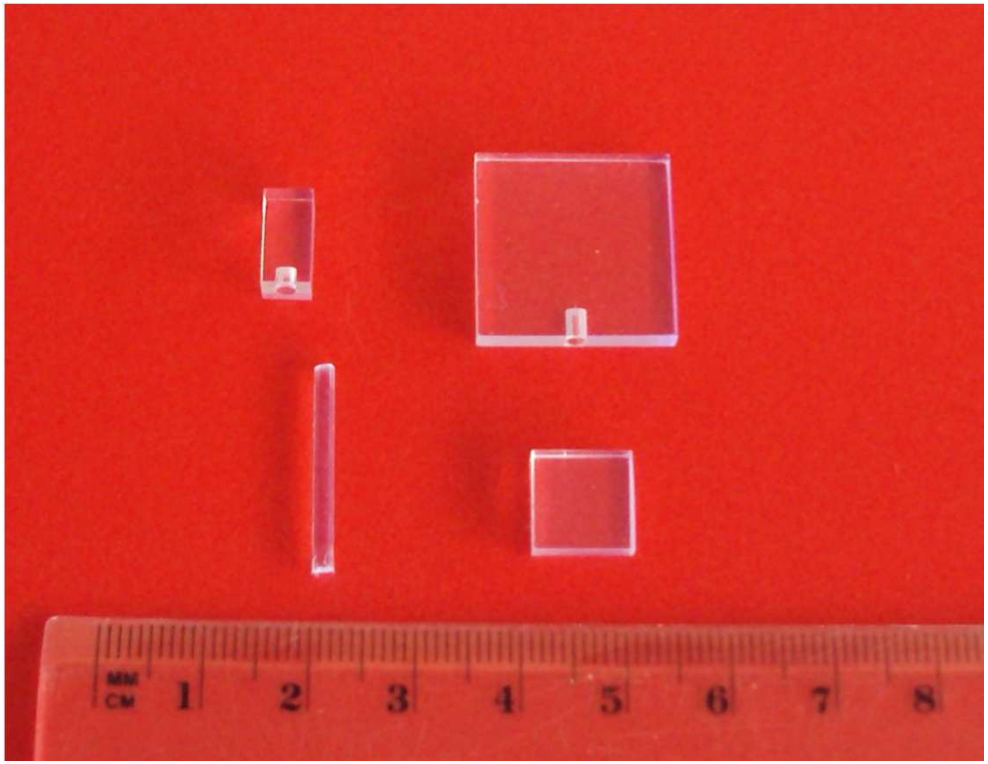
Objetivos

Desenvolvimento de um dosímetro de cintilação para radiologia

- Estudo de diversos materiais de cintilação a utilizar (pmma, pvt, poliestireno)
- Construção de dosímetros usando cintiladores plásticos.
- Leitura do sinal com fibras ópticas e fotodiodo.
- Calibração dos dosímetros para aplicações em radiologia
- Realização de testes em meio clinico.

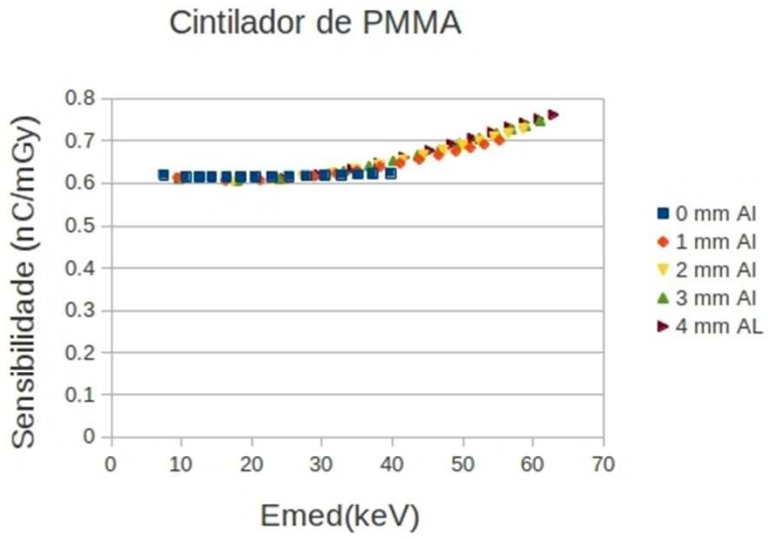
Cintiladores a estudar

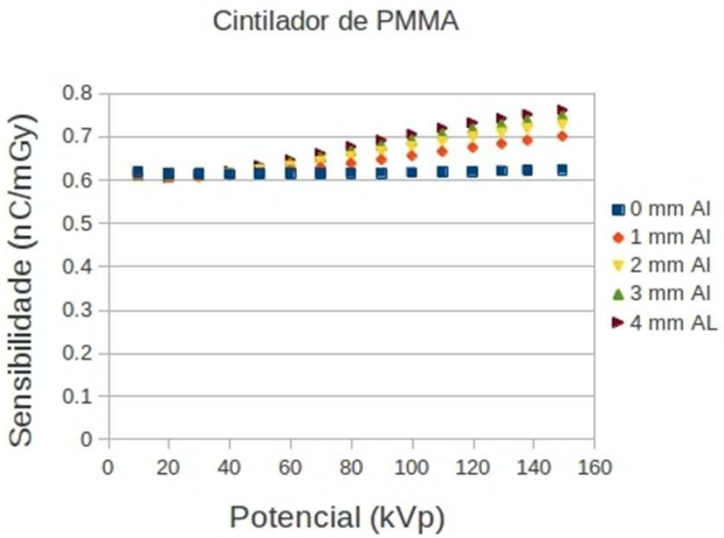


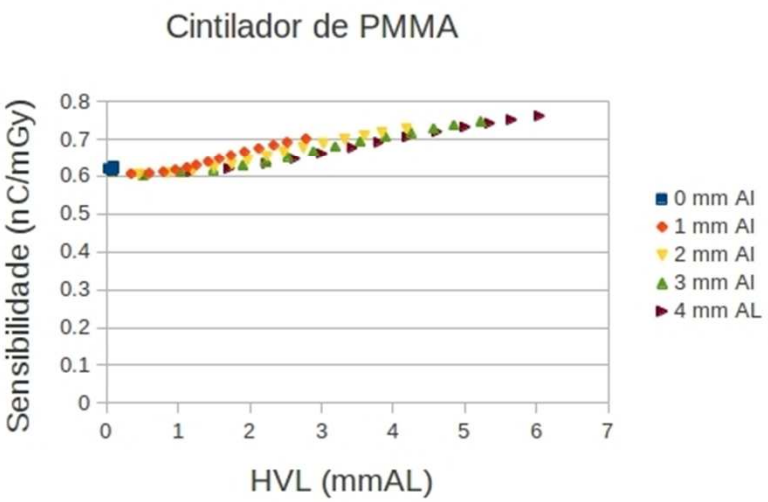
Cintiladores plásticos:

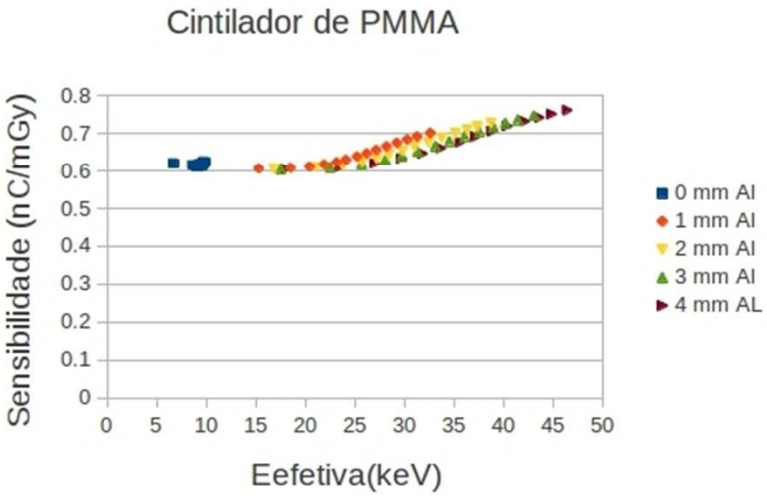
- **PVT**
- **PMMA**
- **Poliestireno**

Simulação da resposta dosimetrica do material cintilador

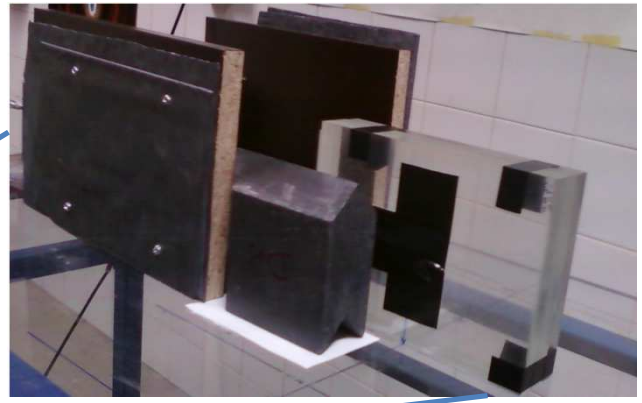


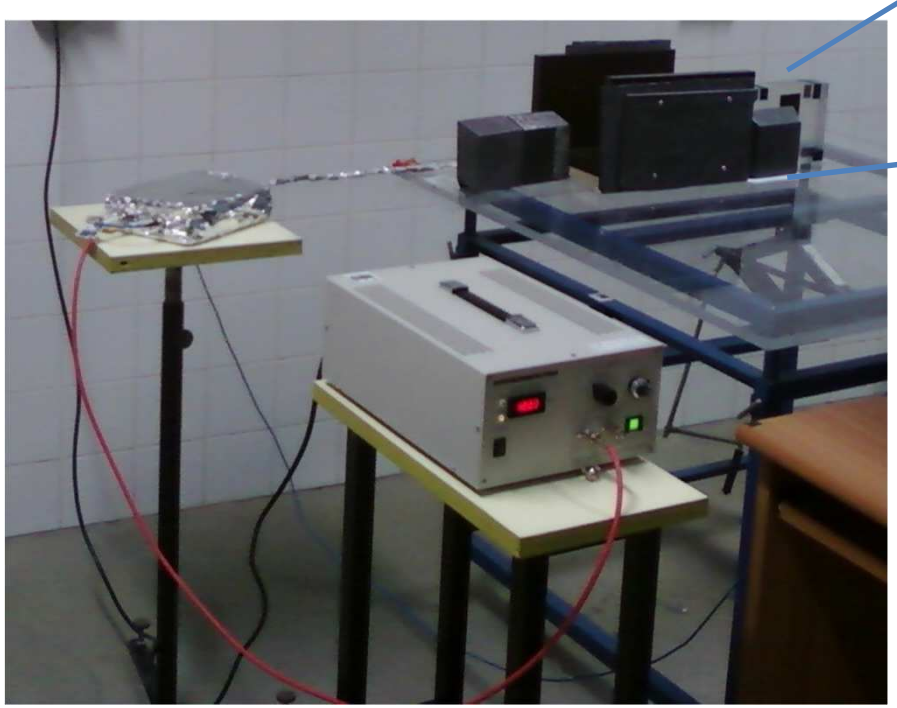




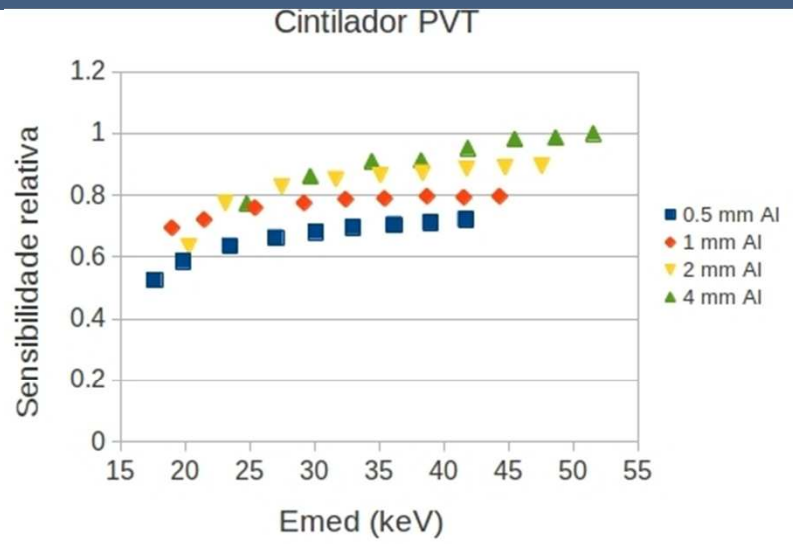


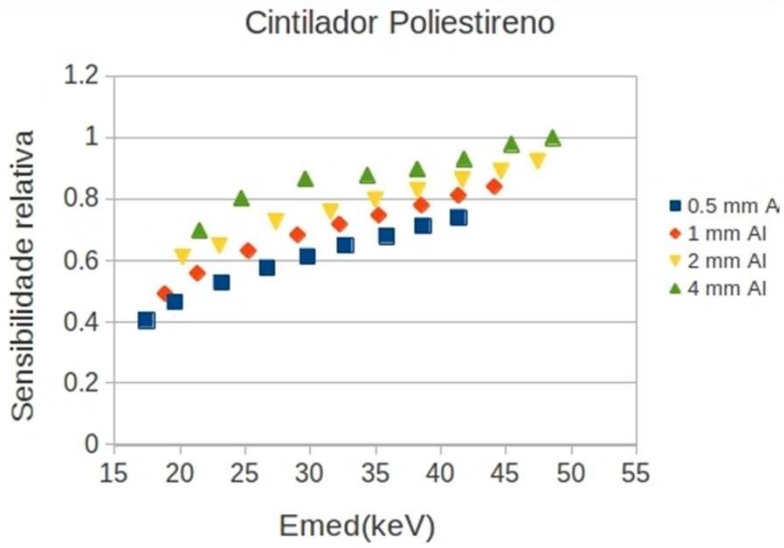
Testes experimentais

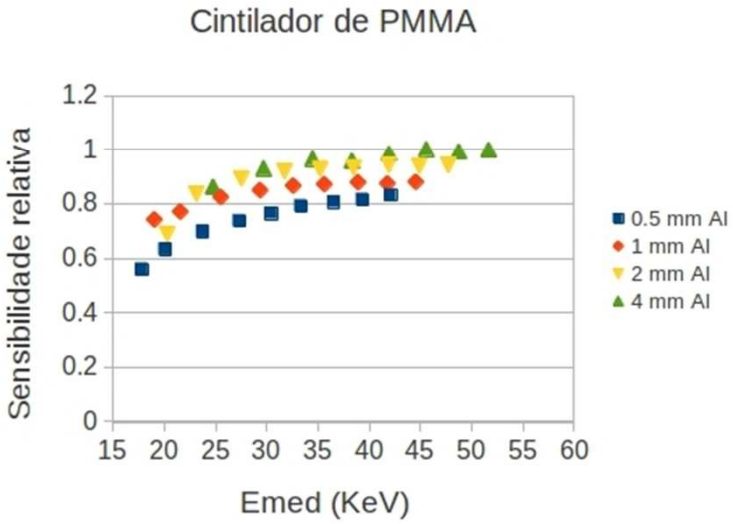




Resultados experimentais de caraterização de cintiladores

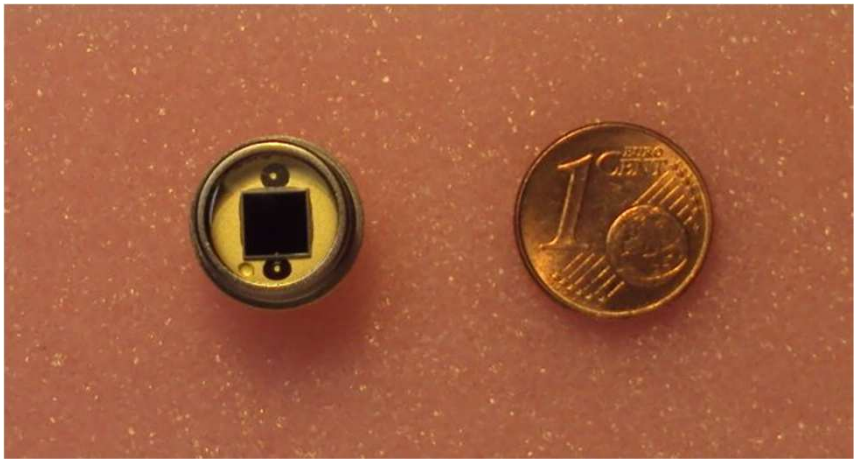






Dosímetro utilizando um fotodiodo

Fotodiodos



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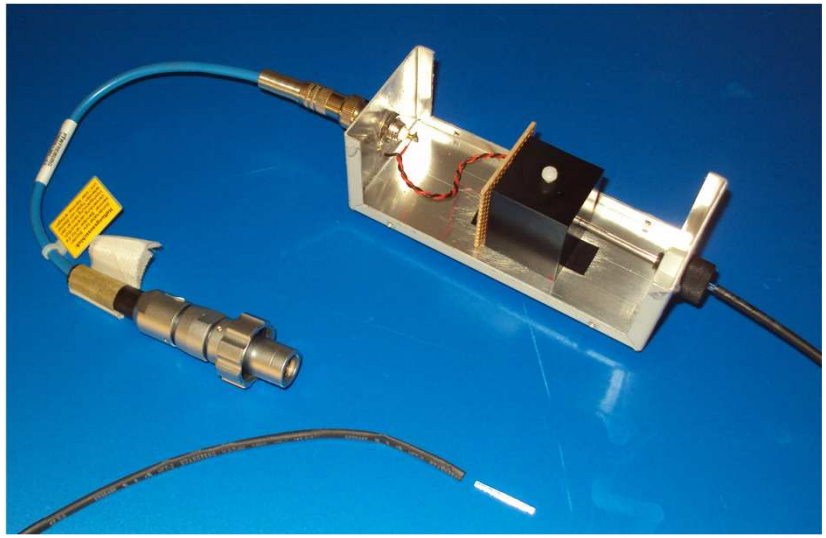
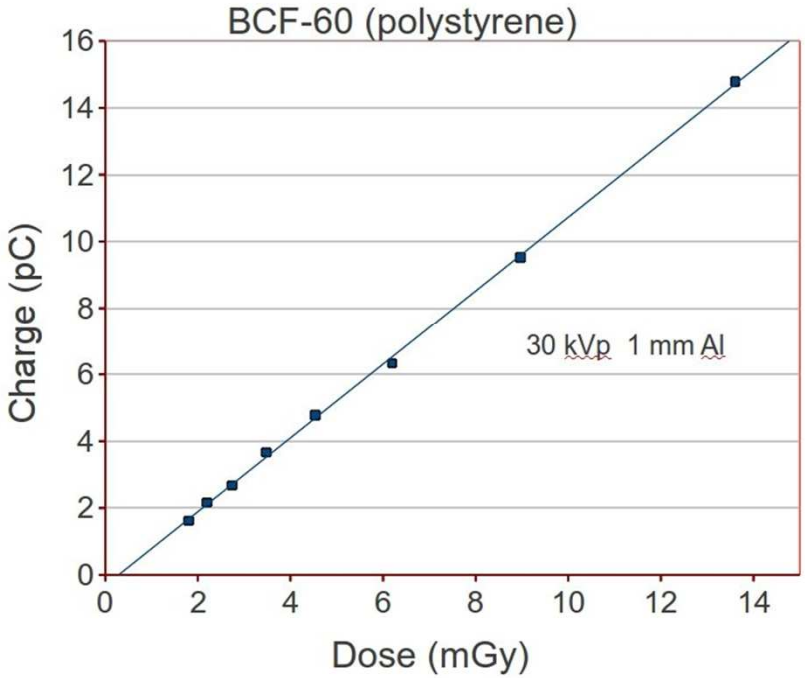
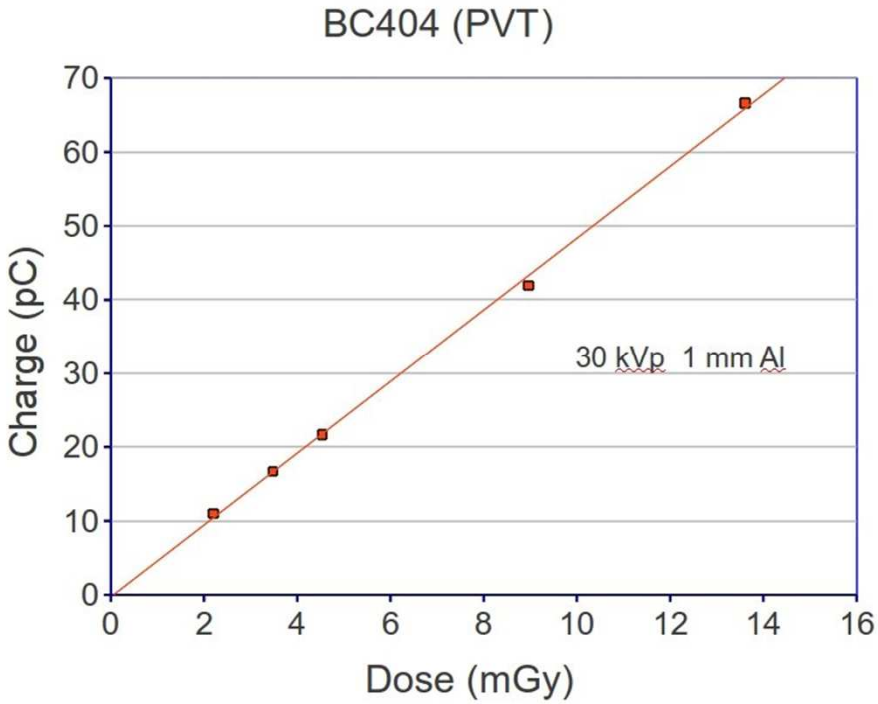
Dosímetro utilizando um Fotodiodo

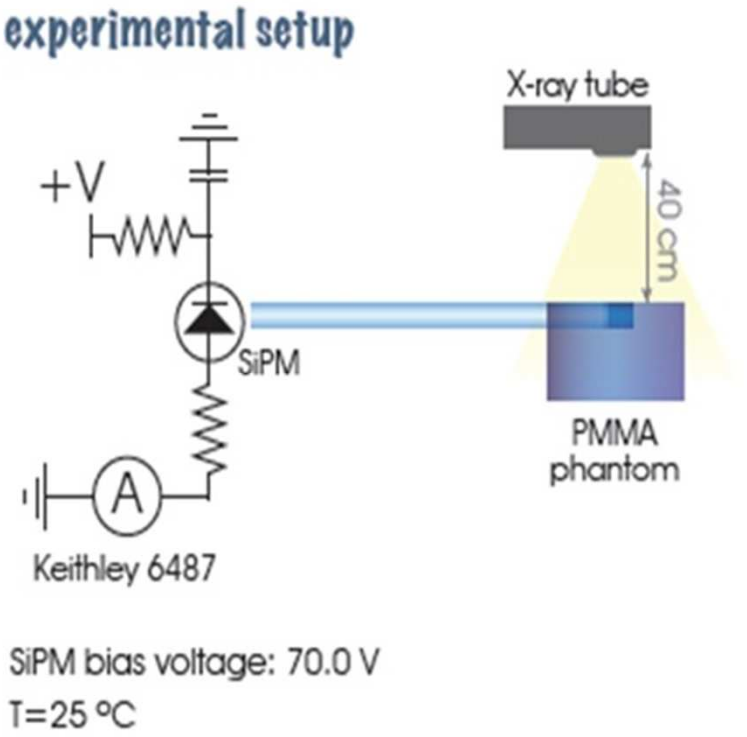


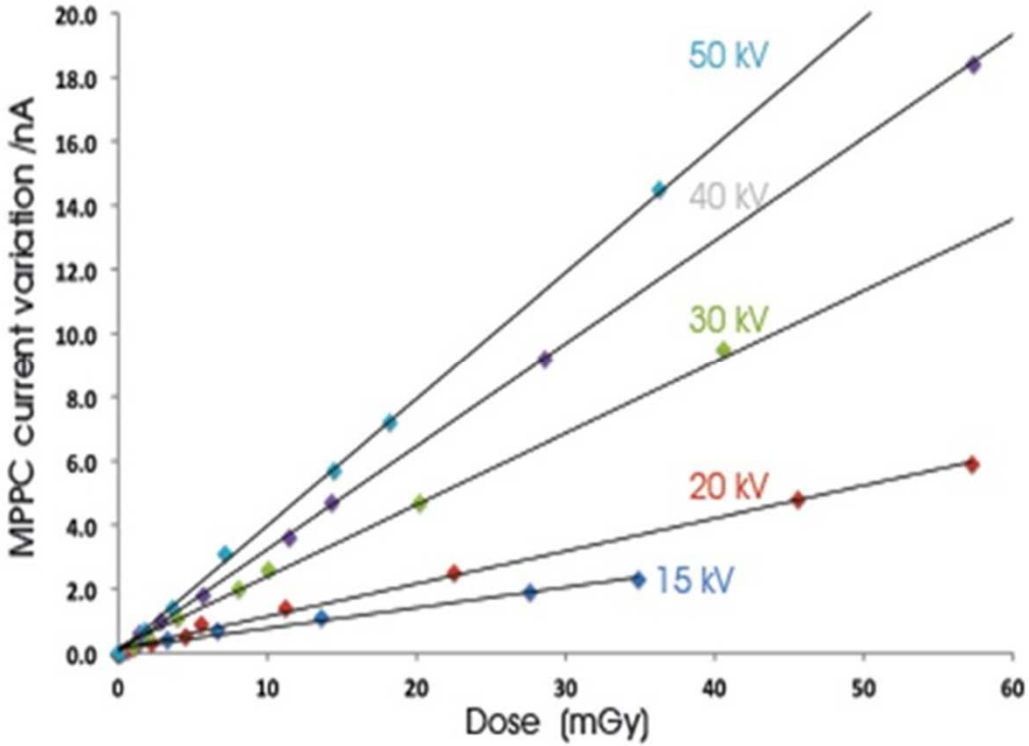
Linearidade da resposta



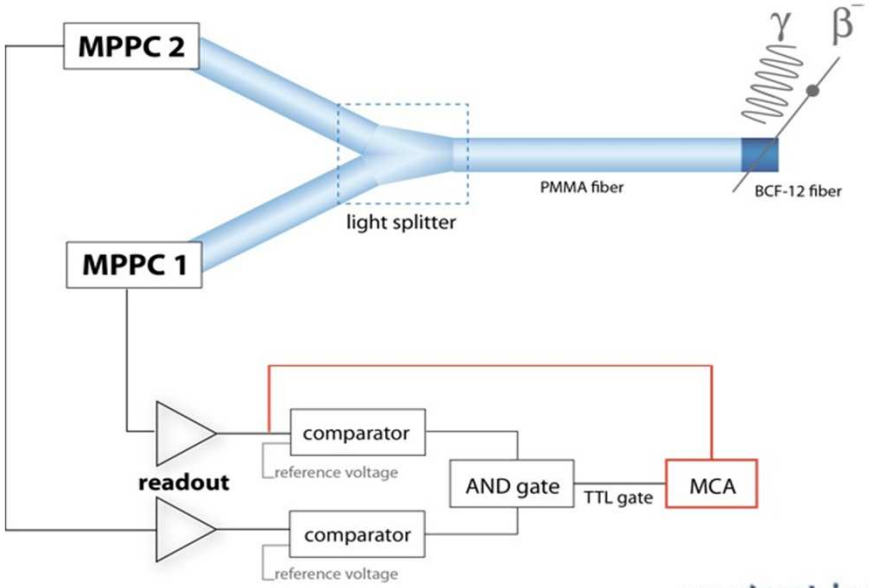


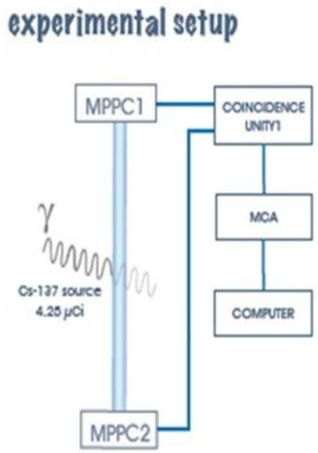
Dosímetro utilizando um SiPM (Aveiro)

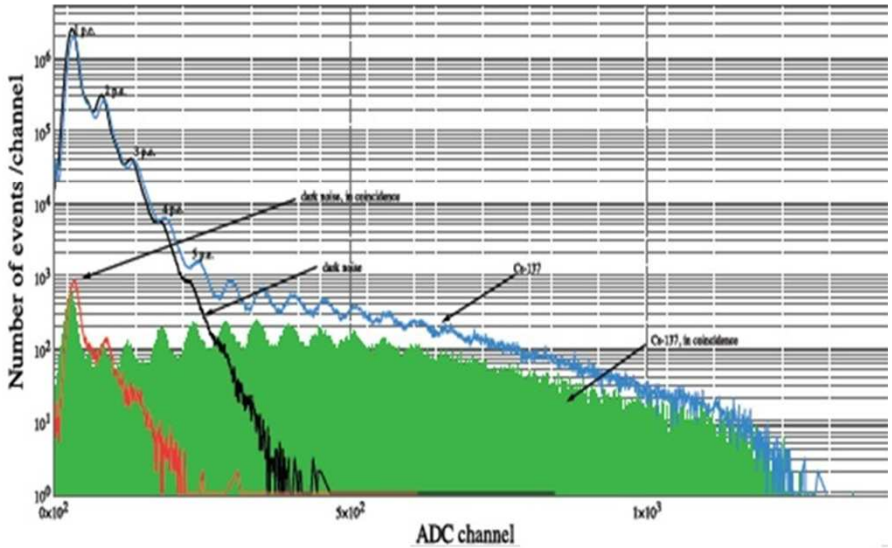




Redução do Ruido

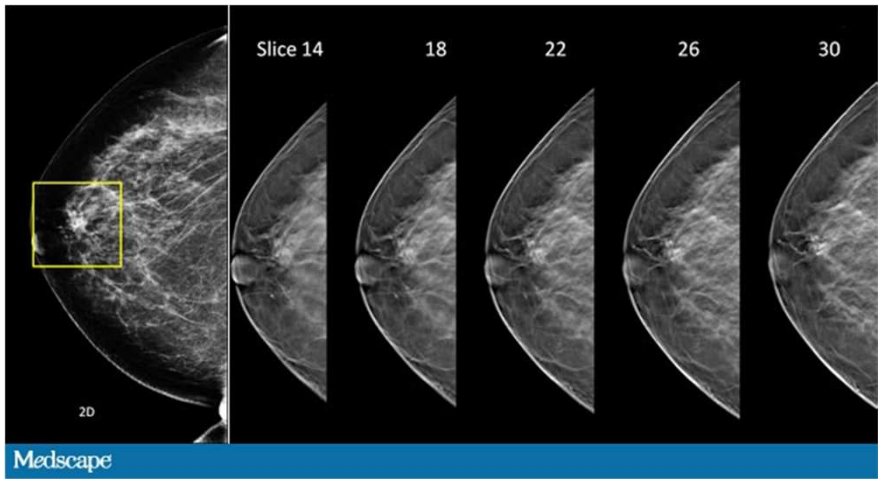






Trabalho de futuro

Construção de dois protótipos :

- **Ortopantomografia**

- **Tomossintese**