

## 양전자 소멸 방법에 의한 $Gd_2O_2S : Tb$ screens 결함 특성

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We present a simple, high-performance Coincidence Doppler broadening spectrometer for positron annihilation experiment(CDBPAS). We can use CDBPAS to measure the concentration, spatial distribution, and size of open volume defects in  $Gd_2O_2S : Tb$  screen materials.

The screens in a hospital were exposed by X-ray varying the exposed doses in 0, 2, 4, 6 years with 80 kV, respectively and also irradiated by 37 MeV proton beams ranging from 0 to  $10^{12}$  ptls. The S-parameter values were increased as increasing the exposed time and the energies, that indicated the defects generate more. The S-parameters of the samples with X-rays are varied from 0.4974 to 0.4990, on the other hand, with proton beams are varied from 0.4804 to 0.4821.