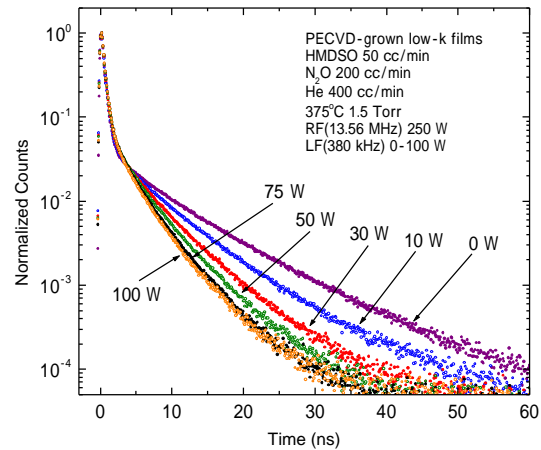
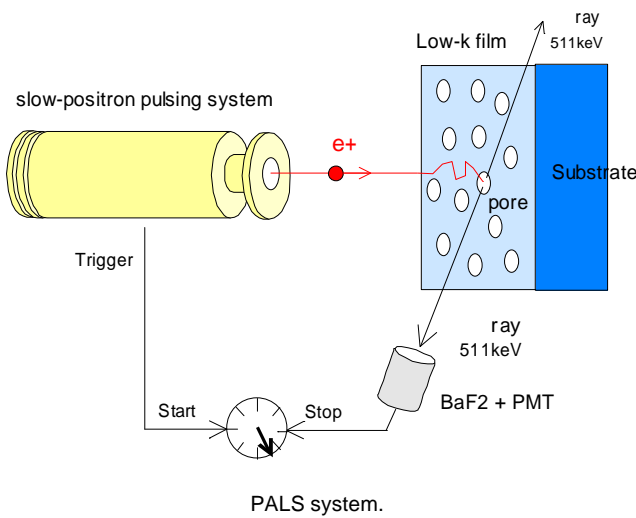


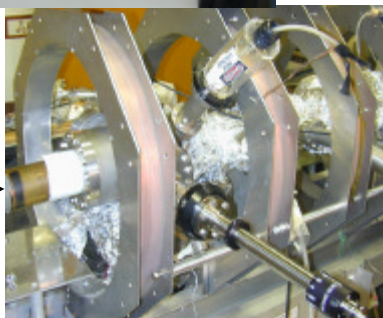
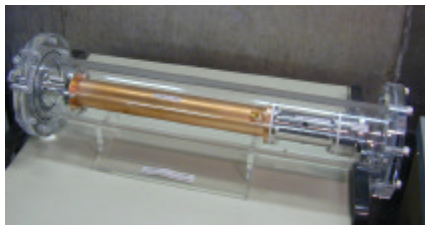
Determination of pore-size distributions of porous low-k films by positron-annihilation lifetime spectroscopy (PALS)

We have developed an apparatus for positron-annihilation lifetime spectroscopy (PALS) using a mono-energetic pulsed positron beam. We apply this technique to measuring pore-size distributions in porous low-k films.

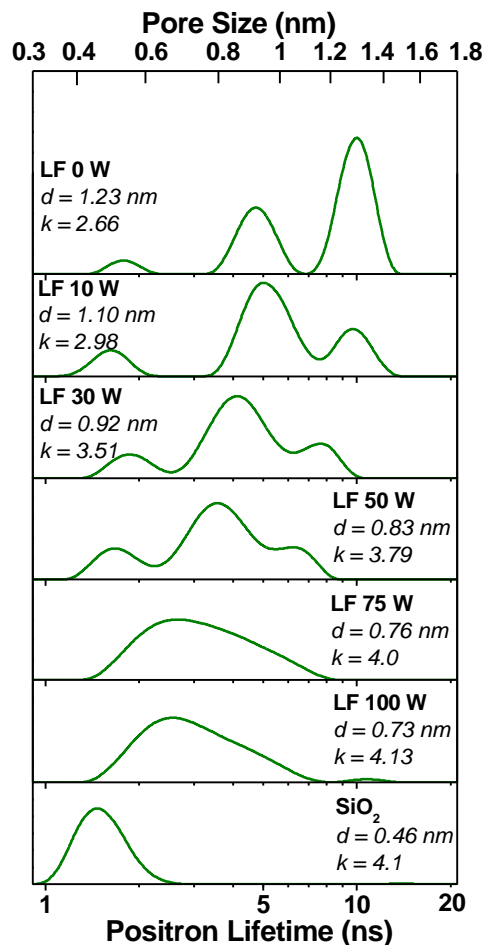
- *Measurable pore-size range* : 0.3nm - 100 nm.
- *Depth selective* : surface - 3 μ m.
- *Distinction between open- and closed-pore structures.*
- *High resolution, high speed collection, nondestructive.*



Positron-annihilation lifetime spectra of PECVD-grown low-k films.



Photomultiplier →



Pore-size distributions in PECVD low-k films obtained by PALS.

(R.Suzuki et al., Jpn. J. Appl. Phys. 2, Lett., vol.40, no.4B, L414-16, (2001))

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