Scintillator Discs

Plano P47 Scintillator Discs

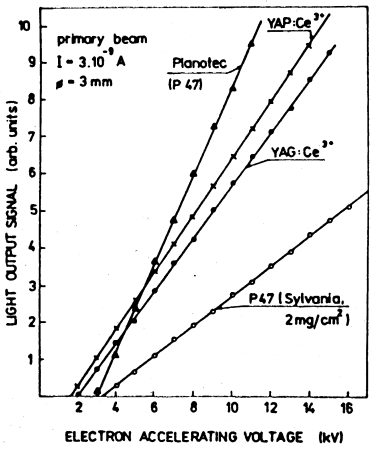
These discs are highly recommended for routine use, being coated with a very uniform layer of carefully selected P47 phosphor. They have a high signal output and a good working life. They should not normally be coated with aluminium unless cathodoluminescence studies are envisaged. An aluminium coating reduces the efficiency by some 20%. Discs are available for all principal types of microscopes. Special sizes are available on request.

YAG Single Crystal Scintillator Discs

Yttrium **A**luminium **G**arnet has a very fast response time of 50-60 ns and unlike plastic or most phosphor scintillators they do not degrade when bombarded by electrons or ions. They are very suitable for high current operations and have a very long lifetime. Light emission peaks about 560nm, response time below 5kV is better with YAG than for P47. The crystal should be coated with 50nm of aluminium before use. If the layer becomes damaged it can be removed with sodium hydroxide without damaging the surface of the crystal. The crystal is mounted with the matt surface in contact with the light pipe as this has been shown to increase efficiency.
The discs are all 1mm thick unless otherwise specified.

YAP Single Crystal Scintillator Discs

Yttrium **A**luminium **P**erouskite crystals are more efficient in light output than YAG (see graph). Also the emission spectrum peaks at about 378nm which corresponds closely to the maximum sensitivity of the S11 photo multiplier that is in general use in most electron microscopes. There is therefore a significant improvement in signal by using the YAP crystal rather than the YAG. The decay time of YAP crystals is 40ns compared with YAG of 80ns, so overall performance of YAP is superior to YAG.



Usage Chart

Diameter	Instrument	P47	YAG	YAP
7.7mm	ISI Mini SEM	**S214**	**S214/G**	**S214/P**
8.8 x 2mm	JEOL, JSM, T20, T200, 840	**S215**	**S215/G**	**S215/P**
9.0 x 3mm	ETEC	**S216**	**S216/G**	**S216/P**
10.0mm	Cambridge/LEO (except S600), AMR1200	**S217**	**S217/G**	**S217/P**
12.0mm	Cambridge S600	**S218**	**S218/G**	**S218/P**
12.0 x 0.17mm	Zeiss SEM	**S219**	**S219/G**	**S219/p**
12.4 x 3.2mm	Cameca	**S220**	**S220/G**	**S220/P**
13.7mm	ISI, JEOL	**S221**	**S221/G**	**S221/P**
16.4 x 0.17mm	Zeiss, Novascan, Semco/Zeiss	**S222**	**S222/G**	**S222/P**
18 .0mm	Camscan/Balscan	**S223**	**S223/G**	**S223/P**
19.8mm	Hitachi with metal ring	**S224**	**S224/G**	**S224/P**
20.0mm	JEOL except JSM T20, T200, 840, AMR1000, 1400, 1600, 1700	**S225**	**S225/G**	**S225/P**
20.0 x 2mm	Philips	**S226**	**S226/G**	**S226/P**