

In Situ Measurement of Vacuum Window Birefringence using $^{25}\text{Mg}^+$ Fluorescence

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Materials

Name	Company	Catalog Number	Comments
280 nm Doppler cooling laser	Toptica	SYST DL-FHG Pro 280	Doppler cooling laser
285 nm ionization laser	Toptica	SYST DL-FHG Pro 285	ionization laser
Ablation laser	Changchun New Industries Optoelectronics Technology	EL-532-1.5W	Q-switched Nd:YAG laser
AOM	Gooch & Housego	AOMO 3200-1220	wavelength down to 257 nm
EMCCD camera	Andor	iXon3 897	imaging of $^{25}\text{Mg}^+$ in ion trap
Glan-Taylor polarizer	Union Optic	Custom	distinction ratio 1e-6
Half waveplate	Union Optic	Custom	made of quartz
Photon multiplier tube	Hamamatsu	H8259-09	fluorescent counting
Power meter	Thorlabs	PM100D	laser power monitor
Quarter waveplate	Union Optic	Custom	made of quartz
Mirror	Union Optic	Custom	dielectric coated for 280 nm
Stepper motor rotation stage	Thorlabs	K10CR1/M	rotating wave plates
Vacuum chamber	Kimball Physics	MCF800-SphSq-G2E4C4	made of Titanium
Vacuum window	Union Optic	Custom	made of fused silica