

April 14, 1999

VLS-PGM



DIP-13-1.2	VLS-PGM	BL-phone: _____
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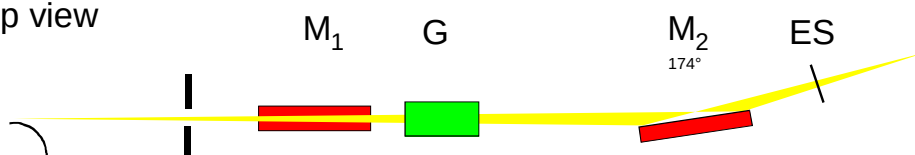
PRELIMINARY TIME SCHEDULE	start of commissioning	start of user operation
	August 1998	October 1998

OPTICAL LAY-OUT (schematic)

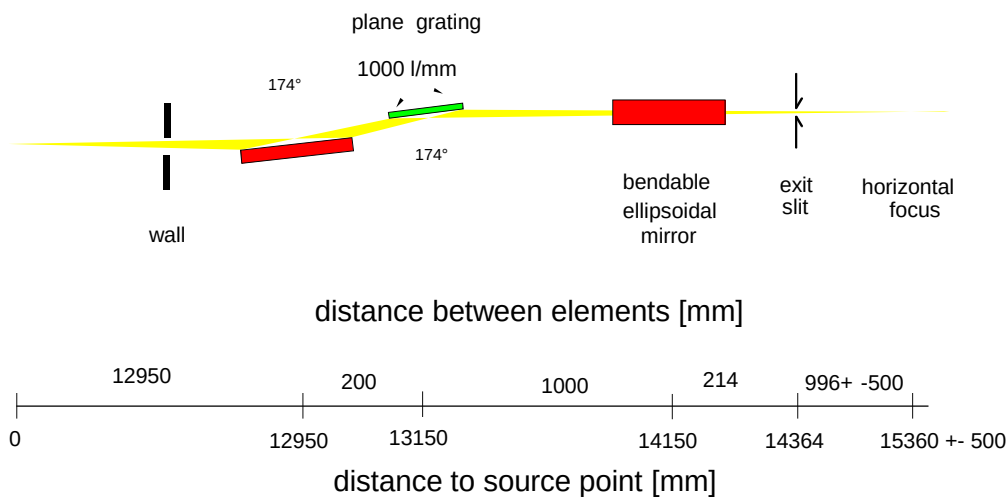


VLS-PGM

top view



side view



acceptance 0.33mrad (hor.) , 0.02 - 0.04 mrad (vert.)

monochromator

principle:

varied line spacing plane grating monochromator

optical components:

M1 : spherical mirror, vertical deflection, $2\Theta=174^\circ$, nickel coated, water cooled, vertical demagnification (10:1) of source on exit slit

G1 : plane grating, vertical deflection, $2\Theta=174^\circ$, gold coated, varied line spacing $d_0=1000$ l/mm

	E [eV]	d[1/mm]	R [mm]	coating
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VLS-PGM

	<table><tr><td>G1</td><td>270 - 700</td><td>970 - 1030 " (± 3%)</td><td>∞</td><td>Au</td></tr></table> M3: bendable mirror (planar to plane elliptical), horizontal deflection, " 2Θ= 174° (variable 168°- 180°), bendable radius 75m - ∞, nickel coated, " horizontal demagnification of source on sample :	G1	270 - 700	970 - 1030 " (± 3%)	∞	Au
G1	270 - 700	970 - 1030 " (± 3%)	∞	Au		
exit slit	rectangular, continuously adjustable : 0-400 μm					
references	[1] P.R.Bressler, F.Senf, W.Peatman, J.Underwood, M.Koike, P.Batson, P.Denham, BESSY Jahresbericht 1997, 500 " [2] M.Hettrick, J.H. Underwood, P.Batson, M.J. Ekhard, Applied Optics 27 (1988) 200					

PERFORMANCE DATA (theoretical)

	resolution: " — " — " — " — " — " — " — " — "	flux: ☐ ☐
spot size at experiment:		
divergence at focus position:		

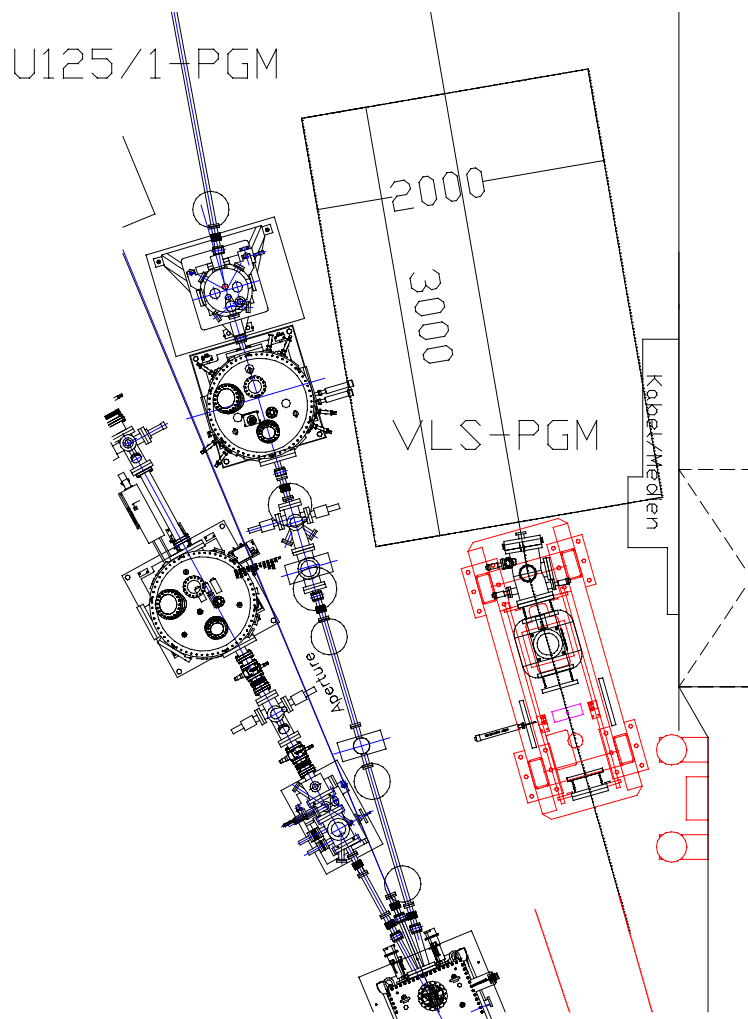
TECHNICAL REFERENCE



FLOOR PLAN

plan view

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TECHNICAL REFERENCE (cont.)

GEOMETRICAL BOUNDARY CONDITIONS

experimental area	$\pm 1\text{m}$ (laterally to beam), 3m behind last valve (see floor plan)
last valve	DN 38CF window valve
horizontal focus position	vertically divergent beyond exit slit, horizontally adjustable from 200mm to 1200 mm behind the last valve
focus height above floor	1421 mm
beam orientation	horizontal



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VACUUM REQUIREMENTS	
max. pressure	<5 x 10 ⁻⁸ mbar at last valve, live zero point signal for interlock
oil free vacuum system	yes
quadrupole mass analyser for gaseous samples required	yes
INFRASTRUCTURE AT EXPERIMENTAL STATION	
electrical power supplies	220V, 380 V max 135 kVA
cooling water	30° / 40°, 10 bar / 2bar
pressurized air	8 bar
<u>oilfree</u> exhaust line	not for poisonous gases!
exhaust line for poisonous gases	in preparation
He-recycling system	not yet installed
computer network	yes
DATA AQUISITION	
control system:	PC-based control system
data-aquisition computer	Personal Computer, measurement bus-extention, OS/2-operating system
data-aquisition software	EMP II
remote-control	V24-serial port, AMC-protocol " CAN-bus, CAN-protocol (in preparation)