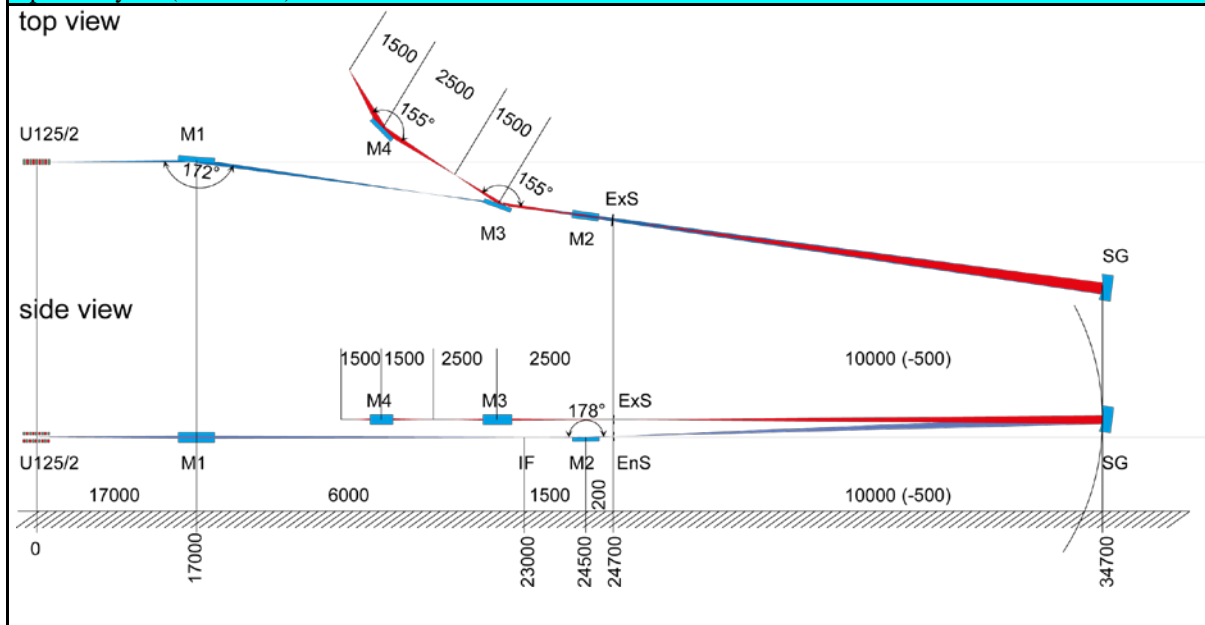


ID-3-3	U125/2-10m-NIM	BL-phone: 13439
--------	----------------	-----------------

contact persons	building	room	phone	fax	e-mail
P. Baumgärtel	14.51	3471	15154	14980	peter.baumgaertel@helmholtz-berlin.de
I. Packe	14.51	3354	12943	14980	ingo.pack@helmholtz-berlin.de

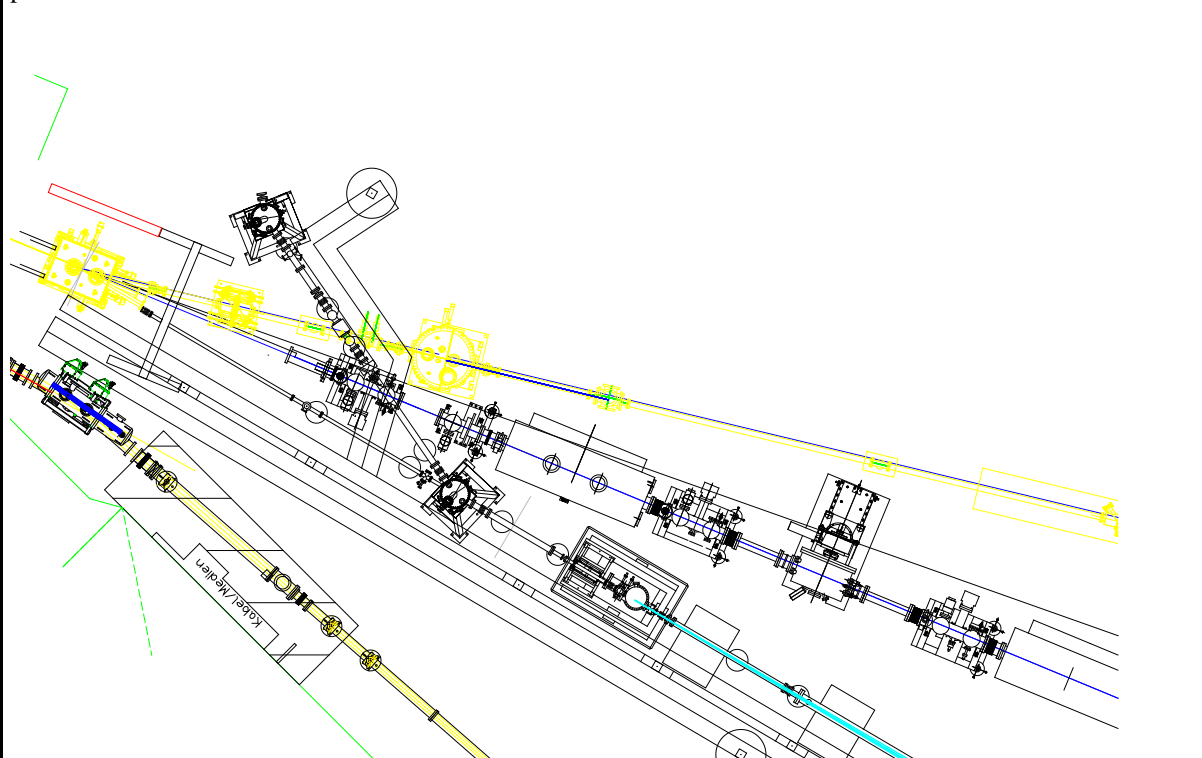
optical layout (schematic)



premonochromator optics	M1: toroidal mirror, horizontal deflection, $2\Theta=172^\circ$, platinum coated, water cooled, horizontal and vertical demagnification 17:6 M2: plane-elliptical mirror, vertical focussing on entrance slit (15:2), vertical deflection $2\Theta=178^\circ$																				
entrance slit	slit setting: 0-2000 μm water cooled, rotatable by $\pm 2^\circ$, prepared for online laser diffraction slitwidth monitor																				
monochromator	<u>principle:</u> off-Rowland-Circle Normal Incidence Monochromator <u>optical components:</u> SG1-3: spherical gratings, vertical deflection, $2\Theta= 2^\circ$, water cooled <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>E [eV]</th> <th>d[ℓ/mm]</th> <th>R [mm]</th> <th>coating</th> </tr> </thead> <tbody> <tr> <td>SG1</td> <td>3 - 40</td> <td>300</td> <td>10041</td> <td>Au</td> </tr> <tr> <td>SG2</td> <td>5 - 40</td> <td>1200</td> <td>10044</td> <td>Pt</td> </tr> <tr> <td>SG3</td> <td>5 - 40</td> <td>4800</td> <td>9991</td> <td>W</td> </tr> </tbody> </table>		E [eV]	d[ℓ /mm]	R [mm]	coating	SG1	3 - 40	300	10041	Au	SG2	5 - 40	1200	10044	Pt	SG3	5 - 40	4800	9991	W
	E [eV]	d[ℓ /mm]	R [mm]	coating																	
SG1	3 - 40	300	10041	Au																	
SG2	5 - 40	1200	10044	Pt																	
SG3	5 - 40	4800	9991	W																	
exit slit	slit setting: 0-2000 μm rotatable by $\pm 2^\circ$, prepared for online laser diffraction slitwidth monitor																				
postmonochromator optics	M3: toroidal mirror, horizontal deflection, $2\Theta= 155^\circ$, Ruthenium coated, vertical demagnification (1 : 1) of exit slit, horizontal demagnification 5:3 M4: totoidal mirror, horizontal deflection, $2\Theta= 155^\circ$, Ru coated, vertical demagnification (1 : 1) of intermediate focus, horizontal demagnification 5:3																				
focus at experiment	divergence: 5,5 mrad (hor.) x 12 mrad (ver.) @ 25 eV 20 μm slitwidth size hor. x ver.: 350 μm x 20 μm , vertical size depends on the exit slit size																				
references	[1] G. Reichardt, J. Bahrtdt, J.-S. Schmidt, W. Gudat, A. Ehresmann, R. Müller-Albrecht, H. Molter, H. Schmoranzner, M. Martins, N. Schwentner, S. Sasaki, "A 10 m-normal incidence monochromator at the quasi-periodic undulator U125-2 at BESSY II", NIM (A) 467-468, p462-465 (2001)																				

technical reference
floor plan

plan view



elevation view

geometrical boundary conditions

experimental area	2m left, 2m right, 3m behind last valve. Concrete experiment platform (2m x 2 m) on air bearings available
last valve	DN 63 CF window valve (for optical set-up with zero order remind the wedge effect!)
focus position	1190 mm from last valve
focus height above floor	1760 mm from floor 1410 mm with concrete experiment platform with air bearings 1460 +/- 10 mm with concrete experiment platform without air bearings
beam orientation	horizontal

vacuum requirements

max. pressure	< 5 x 10 ⁻⁹ mbar at last valve, live zero point signal for interlock
oil free vacuum system	yes

infrastructure at experimental station

electrical power supplies	220V, 380 V max 44 kVA
demineralized cooling water	closed system, forerun 30° / 10 bar, return run *42° / 2 bar
pressurized air	8 bar
oilfree exhaust line	available
exhaust line for poisonous gases	available
He-recycling system	available
computer network	available

technical reference (continued)

data acquisition	
control system	DeltaTau-Pmac, ID-monochromator control system (VME)
data-acquisition computer	Personal Computer, measurement bus-extention, OS/2-operating system Personal Comuter, National Instruments, PXI-System
data-acquisition software	EMP II, Measurement Program M
remote control	DAMC-protocol