



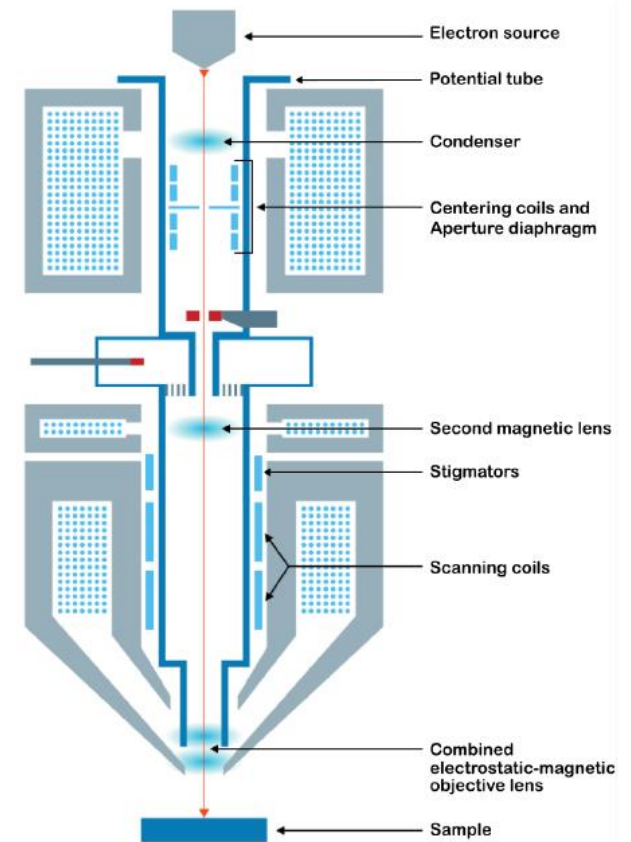
Факультет Химии

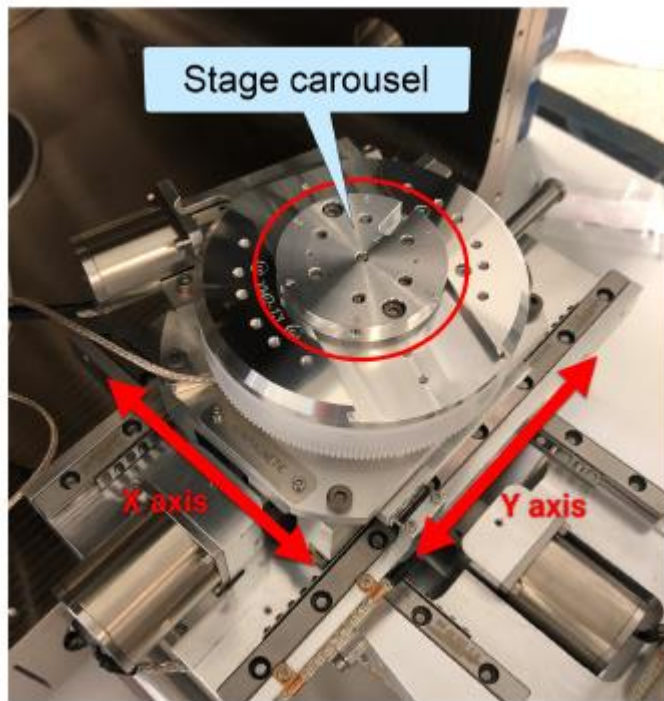
Базовая кафедра неорганической химии
и материаловедения Института общей
и неорганической химии им. Н.С.
Курнакова РАН

Москва
2025

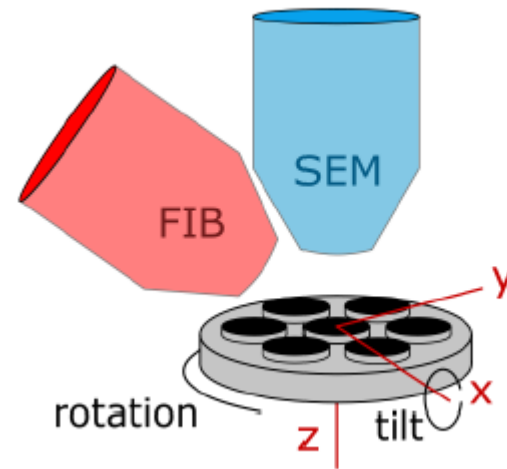
Девятый семинар: «Работа с растровым электронным микроскопом»

Научно-учебная группа
«Наноэнзимы»





Sample stage movements



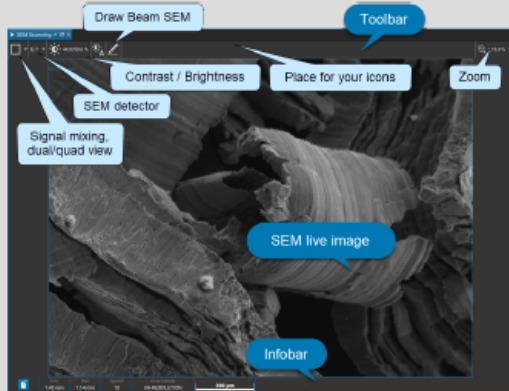




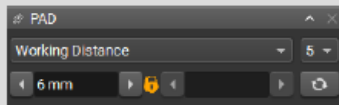
SEM Scan - Panel for starting / stopping the SEM and image scanning process control.



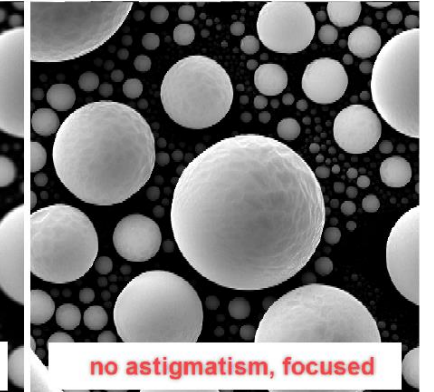
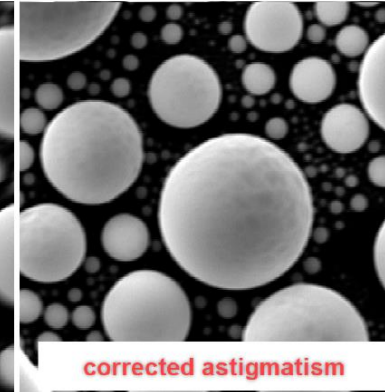
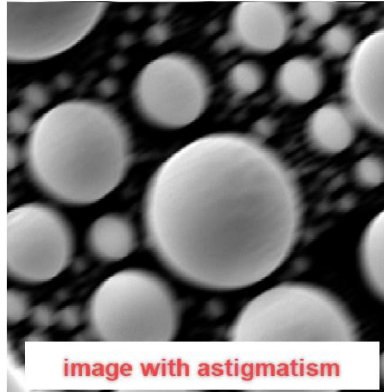
SEM - The panel with SEM parameters settings and SEM presets.



SEM Scanning - This window shows live image from SEM scanning. It also has several control features.



Pad - Universal panel with a variety of parameters including SEM and FIB.





General

Alt	F4	→	Exit
Ctrl	O	→	Open Image
Ctrl	S	→	Save Image
Ctrl	H	→	View Header
Ctrl	C	→	Copy Image to Clipboard
Ctrl	V	→	Paste Image from Clipboard
Ctrl	Z	→	Undo
Ctrl	Y	→	Redo
Ctrl	F	→	Find Feature
Alt	Enter	→	Fullscreen
Ctrl	Page Up	→	Zoom In
Ctrl	Page Down	→	Zoom Out
Alt	Home	→	Zoom 1:1
F1		→	Open Help

PAD

F11	→	Lock first value
F12	→	Lock second value
Shift	←	Decrement first parameter
Shift	→	Increment first parameter
Shift	↑	Decrement second parameter
Shift	↓	Increment second parameter

Stage Control

Ctrl	←	→	Move stage in X axis left
Ctrl	Shift	←	Move stage in X axis left (fast)
Ctrl	→	→	Move stage in X axis right
Ctrl	Shift	→	Move stage in X axis right (fast)
Ctrl	↑	→	Move stage in Y axis down
Ctrl	Shift	↑	Move stage in Y axis down (fast)
Ctrl	↓	→	Move stage in Y axis up
Ctrl	Shift	↓	Move stage in Y axis up (fast)

Scanning

B	→	Select Contrast/Brightness as active function		
M	→	Select Magnification as active function		
V	→	Select Field of View as active function		
S	→	Select Stigmators as active function		
A	→	Toggle accumulation on and off		
Shift	S	→	Single Scan	
Shift	C	→	Continual Scan	
Shift	A	→	Acquire Image	
Shift	B	→	Auto Contrast/Brightness	
Shift	M	→	Maximal Field of View	
Shift	Num	+	→	Extend Field of View
Shift	Num	-	→	Reduce Field of View
Num	+	→	Extend Field of View fine	
Num	-	→	Reduce Field of View fine	
Shift	Num	*	→	Move focus down
Shift	Num	/	→	Move focus up
Num	*	→	Move focus down fine	
Num	/	→	Move focus up fine	
Ctrl	Num	*	→	Increase Beam Current
Ctrl	Num	/	→	Decrease Beam Current
Ctrl	W	→	Start / Stop Wobbler	
Num	1 ... 9	→	Set Scan Speed 1 ... 9	

Electron Beam Control

W	→	Select WD as active function	
O	→	Select OBJ centering as active function	
I	→	Select Beam Intensity as active function	
D	→	Degauss	
Shift	W	→	Auto Focus

Ion Beam Control

W	→	Select Objective voltage as active function
I	→	Select Condenser voltage as active function

