TEM Tomography Instruction (Hitachi HT7800)

- 1. Load sample, turn on TEM and perform axis adjustment
- 2. Find an interesting area. The best range is -250um<x<250 um
- 3. Find Z height : Click "lens reset", choose the 20x mag, click on wobbler and focus image by Z



- 4. Focus sample by using auto focus or focus knob
- **5.** Click **3D tilt image acquisition** in the Function to display the 3D tilt image acquisition TEM window.

Hitachi TEM system control								×	
File	File Operation		F	Function Maintenance					
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• x Zoom-1 0.0 кv				Auto multiple frames(AMF)					
				Auto pre-irradiation(API)					
				3D tilt image acquisition					
				Specimen search control					
			1	Image navigation					
				TEM mapping					
				Camera selection					
HV/Filament operation									
HV		80.0	•	kV	On	Off			
Filam	ent	0.0		v	On	Off		•	
Beam		10.0		цА	On	Off			

6. Click the **File**, set quick save path of the images in the File to set save location and file name of the Tilt series images.



7. Click **3D tilt image acquisition** in the Function to display the 3D tilt image acquisition TEM window. Click **Condition** on the menu bar and set the following conditions.

Select sequence: auto Select α tilt speed: slow Click on ISF condition at the photographing magnification and angle 0 Confirm that the Feedback correct is checked Image reset count: 2 Tracking correlation mode: whole area search ISF correlation mode: whole area search Whole matching size: 1024x1024 Template matching size: 1024x1024



12. Input start angle, finish angle, capture step degree, click start

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art	
Cancel	
0.0	
70.0	

13. Since the center of the target may be shifted, bring it back to the center of field of view with the tracker ball. Adjust brightness knob so that the histogram is centered.

14. Confirm that the target is at the center of the screen and click the **Execute button**. (When click the [Start] button, the [Start] button changes to [Execute] Button.). Sequential tilt and image acquisition starts. It will take some time depending the angle rotation range you set. Please do not touch or change any settings on the microscope and the computer during aquisition.

Image acquisition TEM X								
Exe	ecute							
Ca	incel							
α(tilt)	-60.0							
Limit	70.0							
	Exe Ca α(tilt) Limit							

15. When finished. Turn off the TEM as normal procedure.