CANDLE Synchrotron Research Institute

Development of Technology for Vacuum Thermal Deposition of Cadmium Sulfide Thin Films

Speaker Svetlana Bahrikyan

Modified Thermal Vacuum Deposition Equipment

УВН-71-П3

Cadmium Sulfide

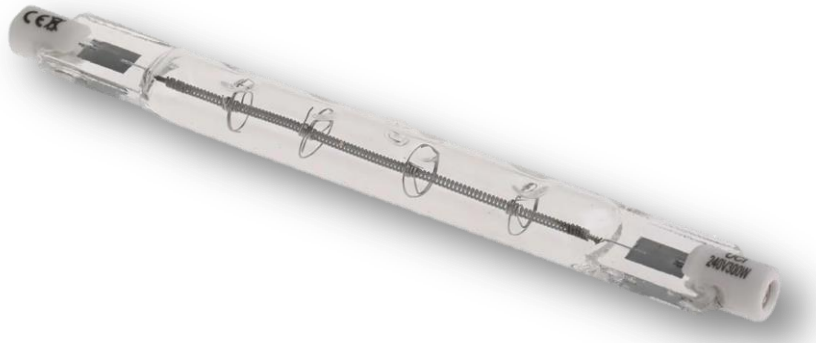
Tungsten Boat

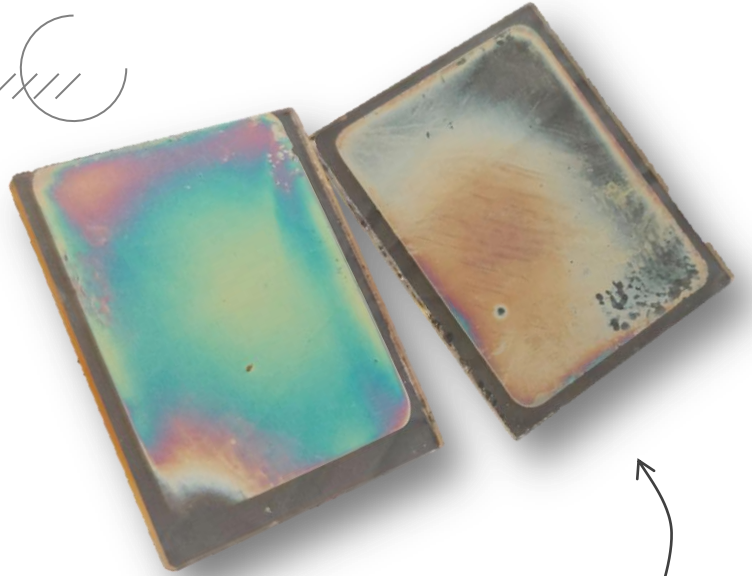
Microscope Slides

Vacuum Conditions

Aluminum Tile That Provides Heat Transfer

Infrared Lamps

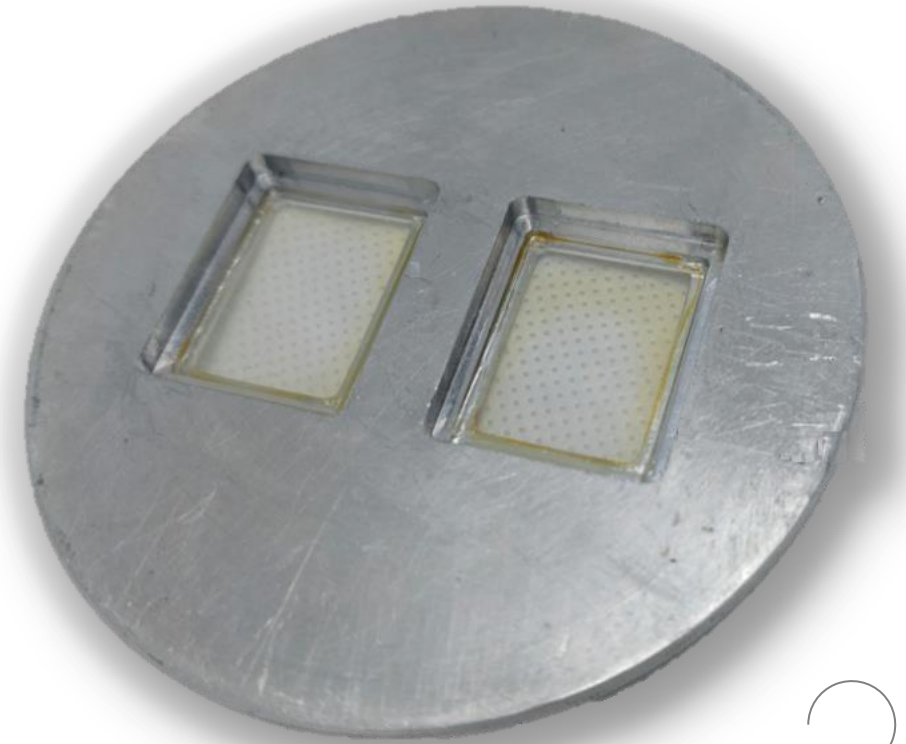




T_{dep}=800℃-810℃

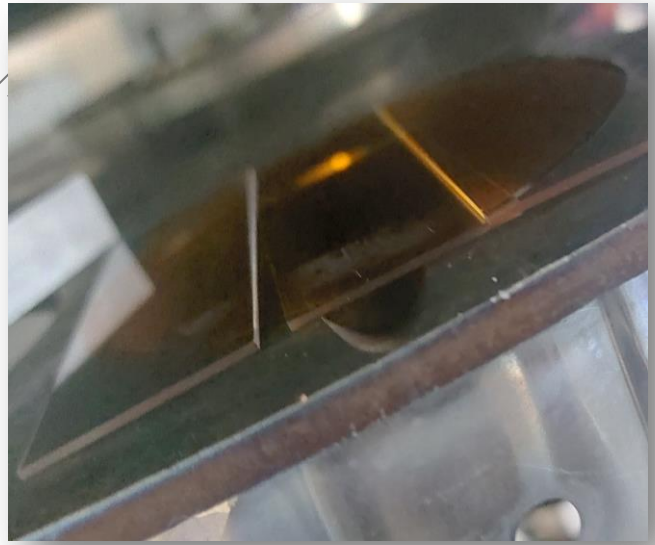
T_{sub}=140℃

t=20min



2 square glasses

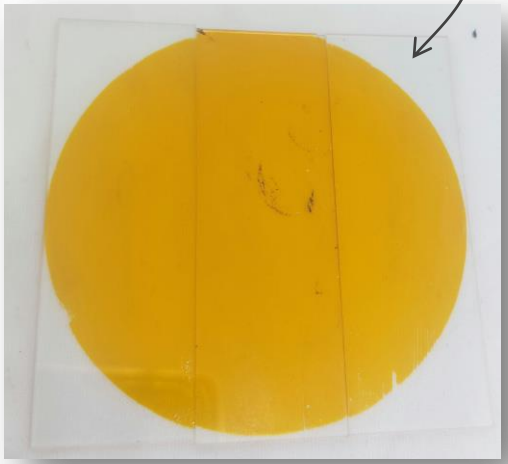
Temperature (°C)		Time (min)	Thickness (nm)
Boat	Glasses		
830-850	100	30	
	120	30	565,27
800-810	140	20	

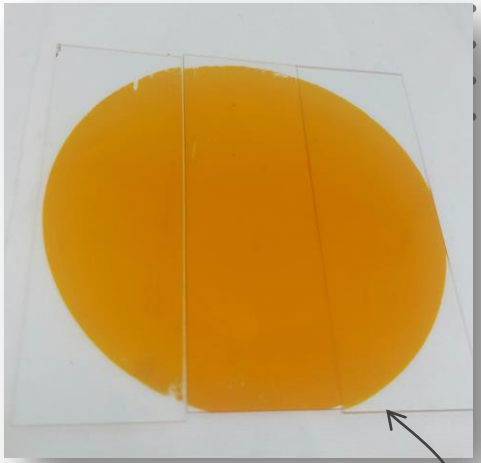


T_{dep}=820°-840°

T_{sub}=130°

t=15min





T_{dep}=830°-850°

T_{sub}=140°

t=15min

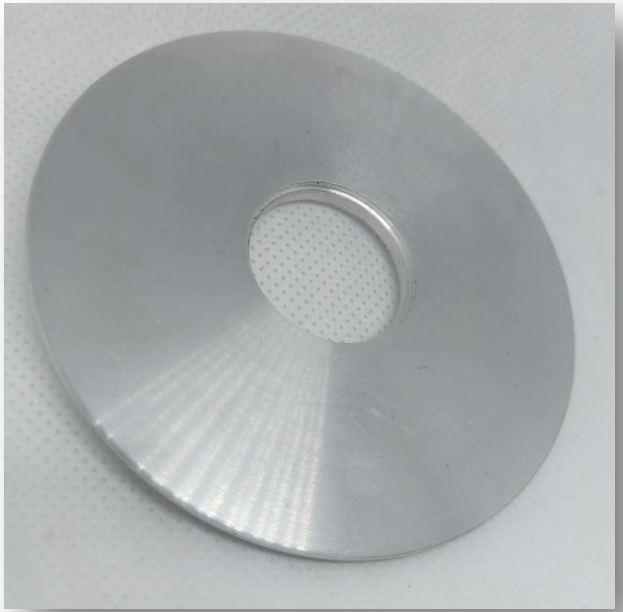
3 rectangular glasses

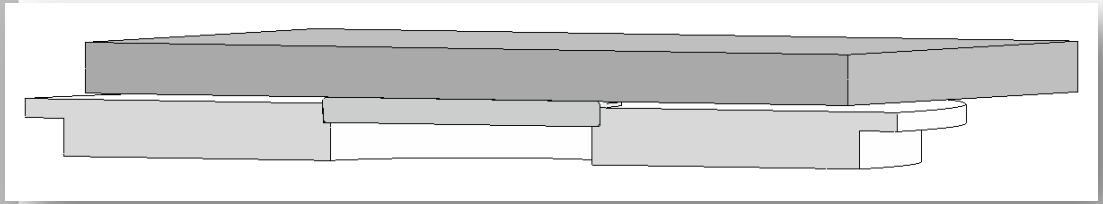
Temperature (°C)		Time (min)	Thickness (nm)
Boat	Glasses		
820-840	130	15	2055,8
	145	20	1521,8
830-850	110	15	
	116	15	2364,5
	140	15	1820
	160	20	

Measurement-Based Analysis

As a result of studying the samples, it became clear that the reversible platform had a deviation relative to the axis of the chamber caused by the mass of aluminum plate mounted on glass and providing heat transfer.

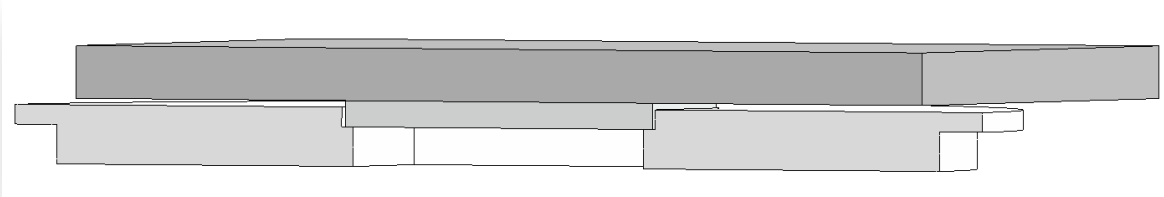
Further Activities





3D model of a new facility for round glasses

3D model of a new facility for square glasses



THANK YOU