

Materials List for:

# Growth and Electrostatic/chemical Properties of Metal/LaAlO<sub>3</sub>/SrTiO<sub>3</sub> Heterostructures

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## Materials

Name	Company	Catalog Number	Comments
Pulsed Laser Deposition	SURFACE	PLD Workstation + UHV Cluster System	
KrF Excimer Laser	Coherent	Compex Pro 201F	
Reflection High-Energy Electron Diffraction (electron gun)	R-Dec Co., Ltd.	RDA-003G	Distributed in Europe by SURFACE.
Reflection High-Energy Electron Diffraction (CCD camera)	k-Space Associates, Inc.	kSA 400	
Variable Laser Beam Attenuator	Metrolux	ML 2100	
Excimer Laser Sensor	Coherent	J-50MUV-248	
LaAlO <sub>3</sub> target	CrysTec		Single-crystal target
SrTiO <sub>3</sub> substrates	CrysTec		Several different sizes. Possibility to order TiO <sub>2</sub> terminated.
Buffered HF Acid	Technic	BOE 7:1	buffered hydrofluoric acid = BOE 7:1 (HF : NH <sub>4</sub> F = 12.5 : 87.5%) in VLSI-quality.
Silver Paste	DuPont	4929N	Conductive Silver Composite.
Ultrasonic Cleaner	Branson	12	Ultrasonic Cleaning Bath
Tube Furnace	AET Technologies	Heat Treatment Furnace	
Borosilicate Glass Beaker	VWR	213-1128	low form
PTFE Beaker	Dynalon	PTFE Beaker	
Substrate holder "dipper"	Eberlé		Custom made dipper
Magnetron Sputtering	PLASSYS	Sputtering system	5 chambers for targets.
Metal targets	Neyco S.A.		Purity > 99.9%
X-Ray Photoelectron Spectroscopy System	Omicron	Custom XPS System	
X-Ray Source	Omicron	DAR 400	Twin Anode X-Ray Source.
Energy Analyser	Omicron	EA 125	
Atomic Force Microscopy	Bruker	Innova AFM	
Atomic Force Microscopy Probes	Olympus	OMCL-AC160TS-R3	Micro Cantilevers
Wire bonding	Kulicke & Soffa	4523AD	
PPMS	Quantum Design	PPMS Dynacool	9T magnet.