

TOOL: Pulsed Laser Deposition – Chamber 2 (PLD-2)

GENERAL INFORMATION

(a) List of Users:

Role	Name	Email ID	Mobile no.
SO-1	Sourabh Jain	sourabhjain@ee.iitb.ac.in	9029284615
SO-2	Rajashree Rajagopal	rajsre@ee.iitb.ac.in	9967968756
AU (operator)	Shailaja Sasi	shailaja@ee.iitb.ac.in	9820935475
user-1	Seeraz Nawaz	craaaz@gmail.com	9920041284
user-2	Himanshu Sharma	himsharma@iitb.ac.in	9930924472
user-3	Dinesh Dixit	dinidixit@gmail.com	8976492177
user-4	Varun	varun300791@gmail.com	9757051579
user-5	Sangya Dutta	sangyaduttta@gmail.com	8879005759

SO => System Owner; AU => Authorized User

(b) Allowed Materials:

- Complex metal oxides with low vapor pressure. Materials currently being used are $\text{Bi}_{1-x}\text{Dy}_x\text{FeO}_3$, $\text{La}_{1-x}\text{Sr}_x\text{MnO}_3$, $\text{Ho}_2\text{CuTiO}_6$, PbTiO_3 , SrRuO_3 , MgO , BiFeO_3 , PZT , and BaTiO_3 .
- Any New material can be allowed with permission of system in-charge and passing through safety committee.
- Substrates/targets with organic materials or coatings are not allowed since this is a high temperature deposition system.
- System is reserved for CMOS integration / device applications of complex oxides, i.e. high temperature process sets on RCA-cleaned silicon substrates.

(c) Procedure to obtain System Training and Authorization:

- Target properties and applications must satisfy criteria listed in section (b).
- The student should have cleared the fabrication lab entry and safety tests.
- Written (letter/email) recommendation for system authorization from the advisor to be conveyed to both the SO.
- As a part of training, the student should attend at least 5 complete runs of SOP being performed by any of the SO/AU.
- Authorization test will have 2 aspects – written and practical.
- Success criteria for authorization: In the written test, the student needs to answer all questions correctly. In the practical test, the student needs to perform a complete run (SOP) correctly.

(d) Violation Policy:

1. The following violations should be avoided by all system users:

- If a user violates any of the SOP steps, leading to system/laser/optics down-time

- If a user fails to make log-book entry of process run and laser on-off time
 - If a user makes system hardware changes without discussing it with the faculty tool in-charge **and** both the SO
 - If a user over-books (> 5 days) the system in a month without confirming system availability. For fair distribution of system time, we need to ensure that every user in need for slots gets at least 5 days for every 4-5 weeks during slot rotation.
 - If a user books a slot in advance and does not use it – this leads to the system remaining idle when other users are in queue. One is expected to inform the next user or SO at least 1 day in advance if the booked slot is not going to be used.
2. If a user is found guilty of any of the above violations, he/she would be barred from using the system for upto **2 months**. Extreme cases of irresponsibility may lead to loss of authorization.

(d) Re-authorization Policy:

If a user has not used the system for more than 6 months at a stretch, he/she will need to clear the authorization test again to resume system usage.