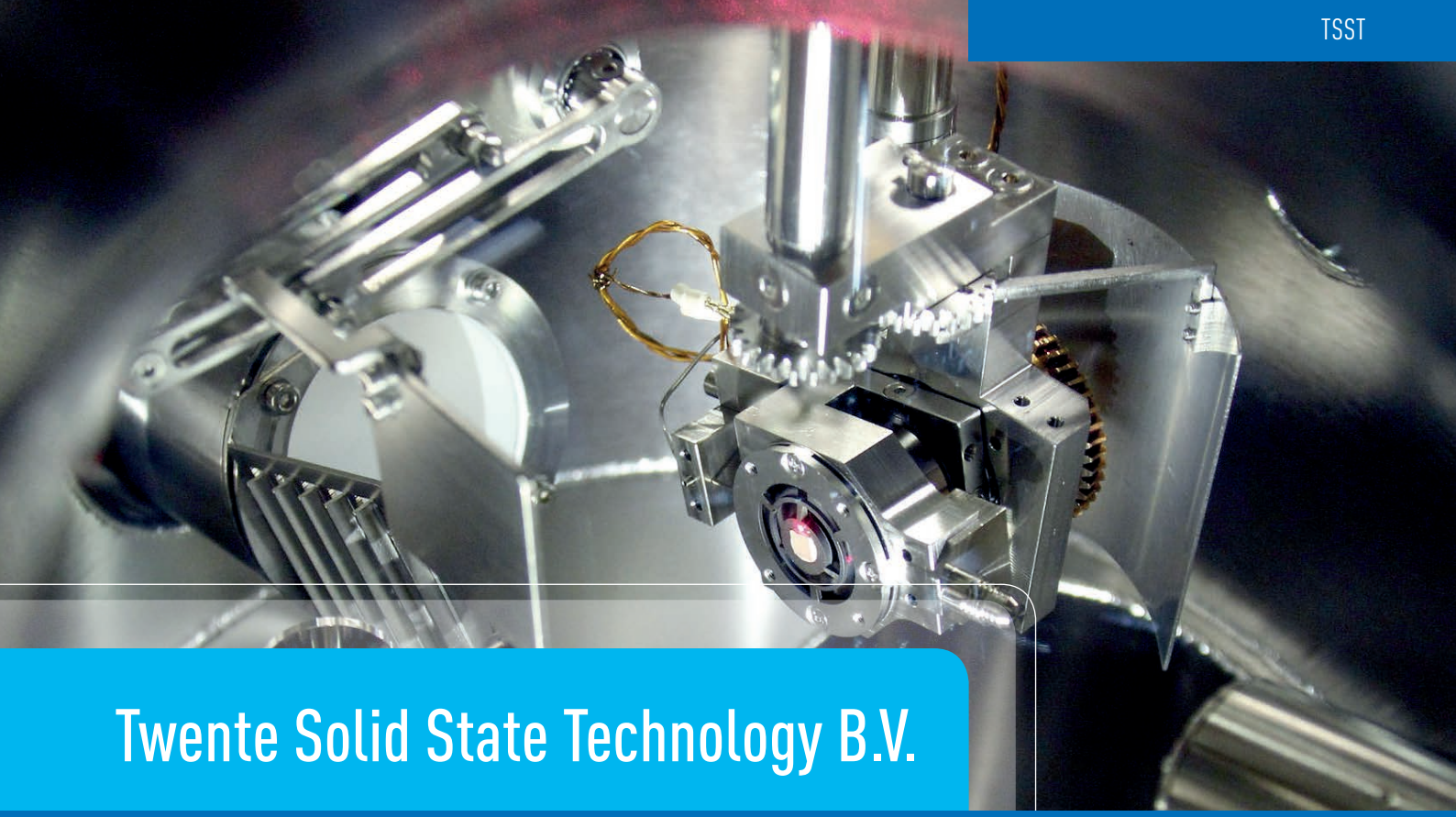


Twente Solid State Technology B.V.

CUSTOMISED SYSTEMS FOR HIGH QUALITY THIN FILM SOLUTIONS

Twente Solid State Technology (TSST) is specialised in the design and production of customised thin film deposition equipment, with a major focus on Pulsed Laser Deposition (PLD) for advanced thin film studies on atomic scale. TSST systems and components can be found around the world.

CUSTOM DESIGN

With almost 20 years of experience, TSST is specialised in customised systems, components and product development. TSST is able to offer individually designed innovative systems and components, based on state-of-the-art technology, adapted to the need of our customer. This includes preparing a system for future upgrades.

EXPERIENCE

TSST values and maintains close collaborations with the scientific community, specifically the University of Twente and the MESA+ Institute for Nanotechnology in Enschede, The Netherlands, one of the world's leading nanotechnology research institutes. TSST integrates most recent knowledge on thin film growth in its system designs and shares this knowledge by organising courses.

SERVICE

TSST considers thorough service and support as integral part of its mission. Therefore, TSST engineers are always available for quick and effective support.

Mission

TSST wants to contribute to the progress in the worldwide scientific community of advanced thin film materials research and distinguishes itself by its custom designs, experience and service.

TSST

Twente Solid State Technology B.V.

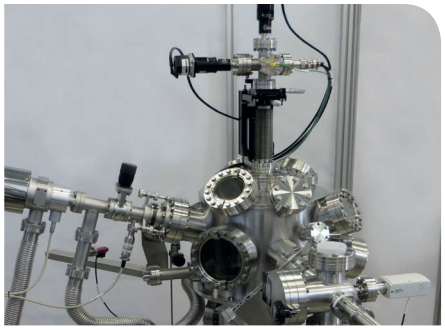
Pulsed Laser Deposition has made a tremendous progress during the last decades in the fabrication of (complex) materials, including oxide thin films. The development of high pressure RHEED has lead to an improved control over single crystal surface termination and growth on atomic level, as well as new growth manipulation techniques like pulsed laser interval deposition. At present, highly epitaxial growth and atomically sharp interfaces are achieved in the growth of complex oxide heterostructures.

PRODUCTS AND SERVICES

TSST provides complete custom designed PLD systems, and complementary components such as High Pressure Reflective High Energy Electron Diffraction (RHEED), heating and target stages for upgrading existing systems. Furthermore, TSST organises a yearly course on fundamental aspects of PLD with hands-on training. Other TSST services include thin film depositions and substrate treatments.

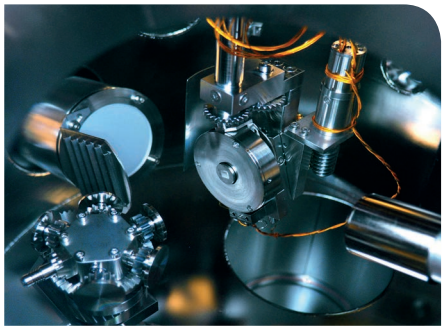
TESTING AND PERFORMANCE

Systems meet highest quality standards after extensive testing and simulating of system requirements and operational conditions. Typical system performance will be demonstrated during installation and training.



SYSTEMS

TSST Pulsed Laser Deposition systems for thin film growth are state-of-the-art, highly flexible PLD systems for thin film research on atomic level, ideally suited and field proven for research on a large variety of materials including complex oxides. Our advanced systems are standard equipped with in situ RHEED and offer full possibilities, specifications and flexibility for thin film research with control at atomic level.



COMPONENTS

Besides full system solutions TSST offers custom made components. These include heating stages with different heating geometries and target stages, both with various manipulator configurations, adjustable to the preferences of the customer. Furthermore TSST offers high pressure RHEED, adaptable to new or existing vacuum chamber configurations.

COURSE ADVANCED PULSED LASER DEPOSITION

TSST organises in collaboration with the University of Twente an annual course "Advanced Pulsed Laser Deposition of Complex Oxides". Goal of this course is to obtain an understanding of the scientific and technological background of pulsed laser deposition controlled by high pressure RHEED, including hands-on training.

TSST

Institutenweg 25
PO Box 256
7500 AG ENSCHEDE
The Netherlands

T +31 (0) 53 2030 244
F +31 (0) 53 2030 248
info@tsst.nl
www.tsst.nl