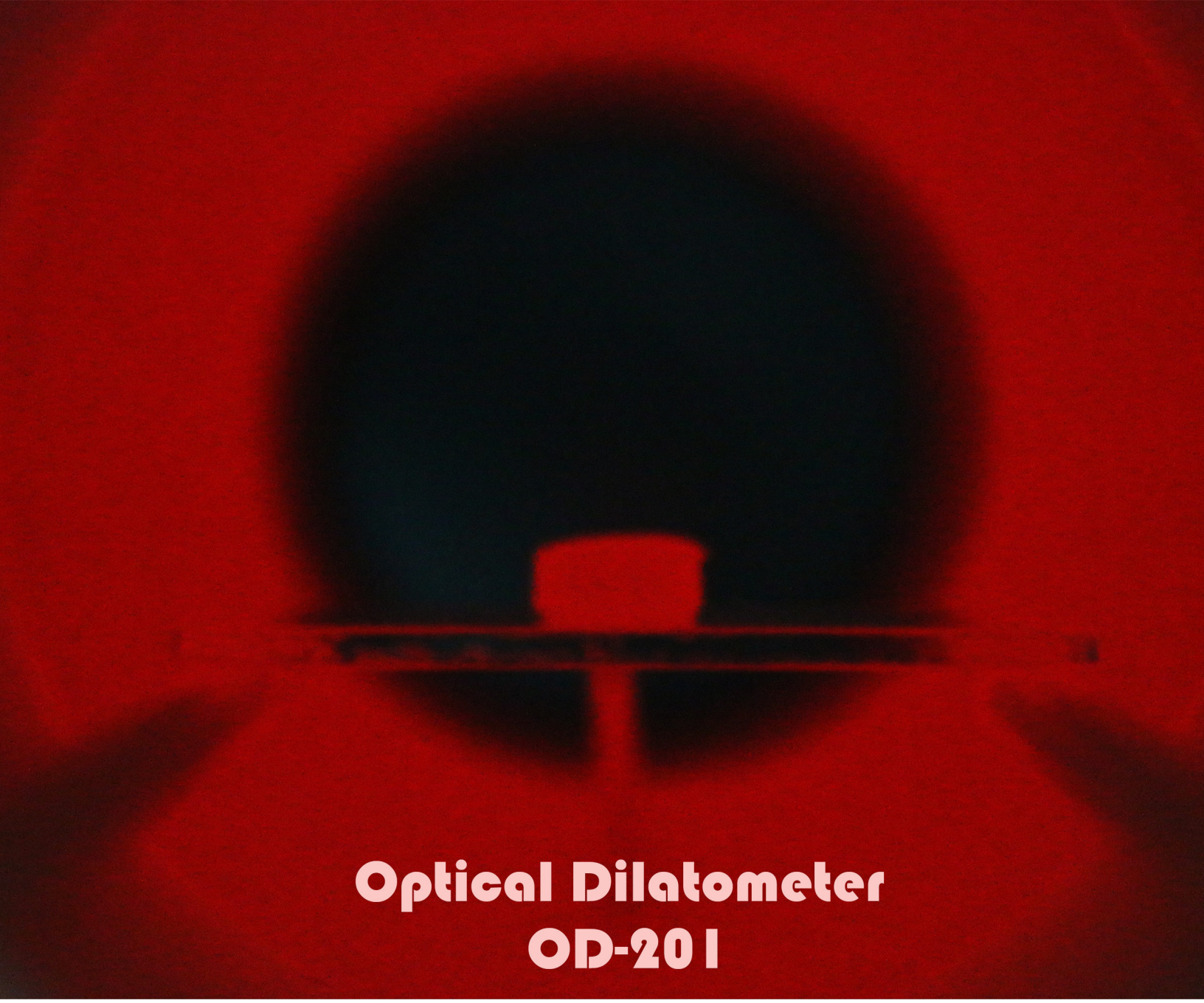


Optical Dilatometer
OD-201

OPTONOM

Scientific Instruments

www.optonom.com.tr

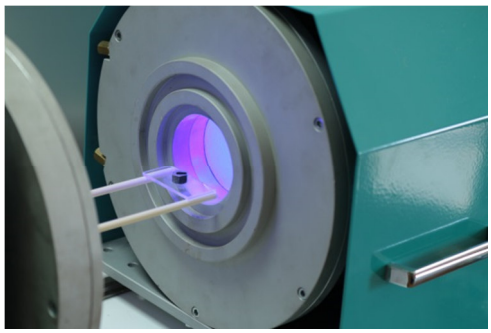
Turkey
Discover
the potential

Linear Expansion Change

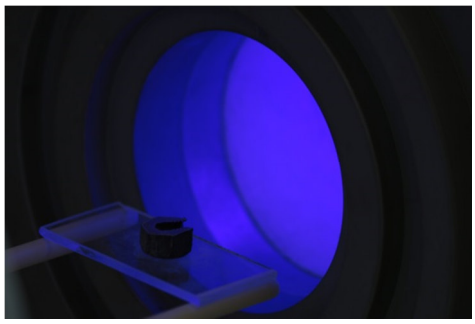
Optonom OD- 201 model optical dilatometer has been developed as a result of long R & D activities to meet the needs of glass, ceramic, metal, plastic industries, universities, test and research centers.

$$\Delta l = \alpha\, l_0\, \Delta T$$

High-resolution image sensor by an optical system to analyze in real time the desired sample analysis can be performed. Therefore, video images can be monitored in real time as well as photo image.

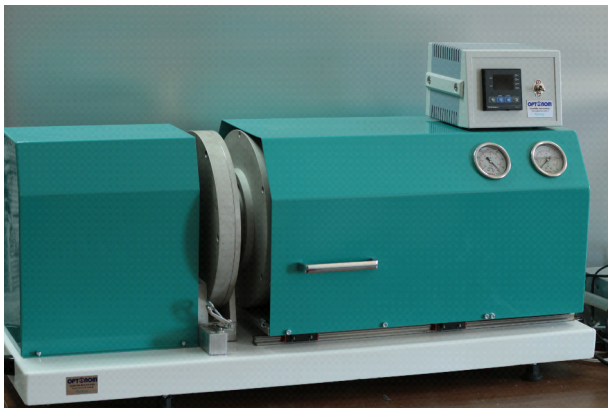


The biggest advantage compared to traditional mechanical push-rod dilatometers, is to provide the opportunity to measure directly without any physical contact with the sample.



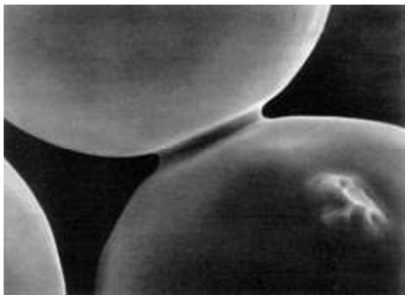
Because of the influence of the sample thrust in push-rod mechanical dilatometer made with high margin of error of linear expansion measurements. Fewer errors can be made with OD-201 optical dilatometer through as physical non- contact.

Due to horizontal design, thin film sample measurements can be easily accomplished that cannot be carried out in conventional push-rod mechanical dilatometers.



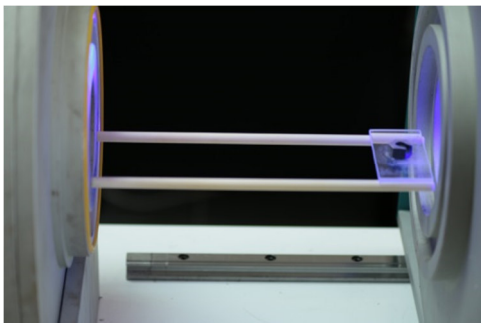
Sintering

The process of compacting and forming a solid mass of material by heat and/or pressure without melting it to the point of liquefaction can be measured by Optonom OD-201 optical dilatometer.



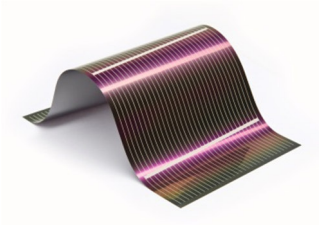
Classical mechanical pushrod dilatometers have one disadvantage for Sintering processes. There is always a force in z-direction that can cause a certain sinter direction.

Optonom OD-201 optical dilatometer is able to measure a sinter process completely contact free and guarantees



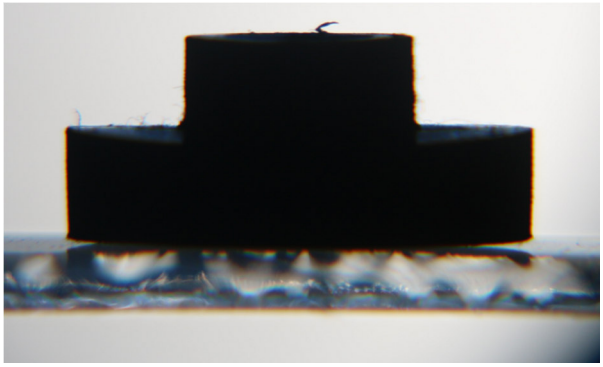
Applications

- Heating microscope
- Optical Fleximeter
- Non-contact Expansion measurement



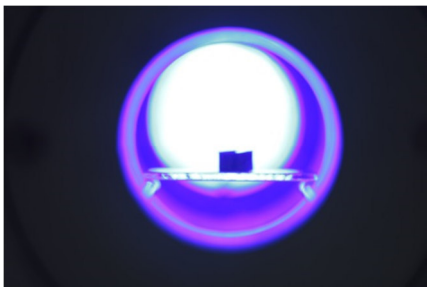
Industries

- Research Centers
- Universities
- Glass Industry
- Metal Industry
- Enamel coatings Industry
- Ceramics Industry
- Energy Industry
- Quality Control Centers

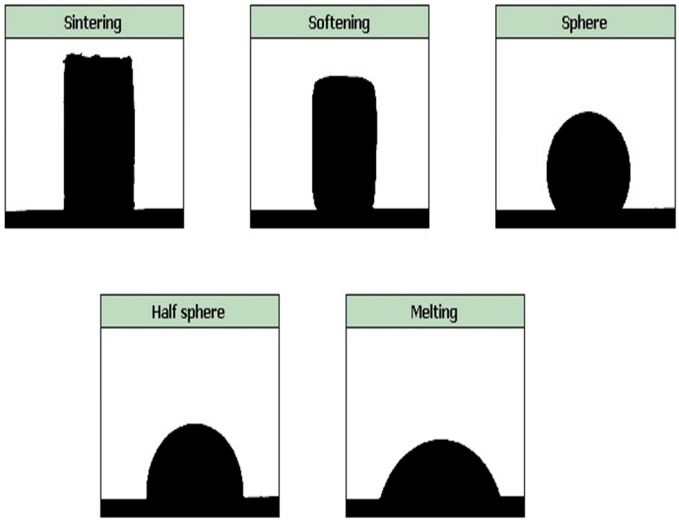


Heat Microscope Applications

- Ash fusion microscopy
- Observation and analysis of sintering processes
- Microscopy at high temperatures and under different atmospheres



- Surface diffusion – Diffusion of atoms along the surface of a particle
- Vapor transport – Evaporation of atoms which condense on a different surface
- Lattice diffusion from surface – atoms from surface diffuse through lattice
- Lattice diffusion from grain boundary – atom from grain boundary diffuses through lattice
- Grain boundary diffusion – atoms diffuse along grain boundary
- Plastic deformation – dislocation motion causes flow of matter



Note: Cooling system must be feed with limeless water..

OD201 Optical Dilatometer Technical Specifications	
Model	OD-201
Type	Horizontal
Control	Computer Controlled
Interface	USB
Software	Optonom OD-201 Software
Temperature Range	25°C 500°C, 25°C -1000°C, 25°C - 1200°C, 25°C - 1600°C, 25°C - 1800°C
Measurement Type	Optical Non-Contact
Measurement Precision	4µm
Atmosphere	Vacuum and Inert Gas