



Beijing Fire Eye New Material Manufacturing Co., Ltd.

FE-CVD

In-situ Microscopic Imaging CVD System

- **Resistance up to 950 °C**
- **Resolution of 1 μm**
- **High-Temperature Process Research**

2D Material Growth

Thin Film Deposition

High-Temperature Crystallization

High-Temperature Etching

- **Customizable**

Raman Spectroscopy

SHG imaging



Room 173, Plaza C, Dongsheng Building,
Haidian District, Beijing, China

Mr. Zhao : zhao.zy@fireeyenano.com



<http://www.fireeyenano.com>



In-situ Microscopic Imaging CVD System



Feature & Application

By integrating a patented high-temperature resistant microscopic imaging system into the chemical vapor deposition (CVD) system, it enables in-situ high-resolution optical imaging of the material growth process. This provides real-time information on parameters such as material growth rate and micro-morphology, offering precise data for analyzing material growth mechanisms and engineering material growth processes.

The product can be applied to two-dimensional material growth, thin film growth, nano/microwire growth, high-temperature sintering, high-temperature etching, and more.

Customized spectral modules, such as Raman and second harmonic generation (SHG), are available.

Diagram

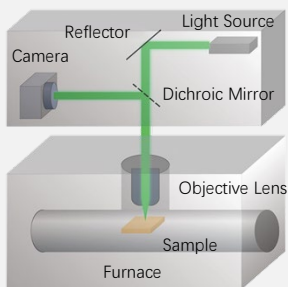
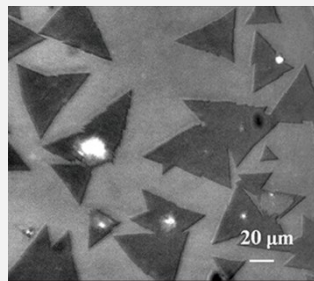
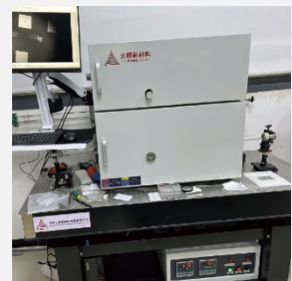


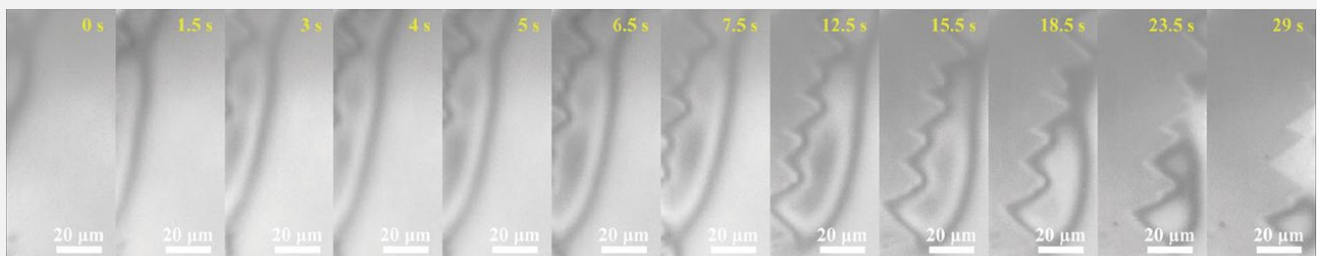
Image sample



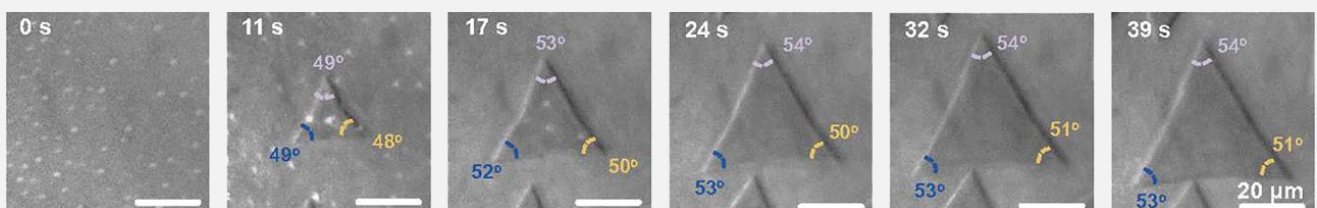
Customers



Real-time in-situ imaging of MoS₂ growth



In-situ imaging of high-temperature liquid-phase growth processes

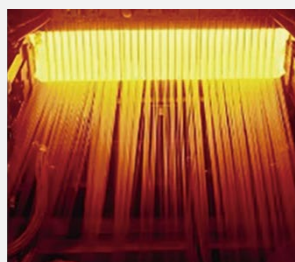


In-situ imaging of high-temperature gas-phase growth processes

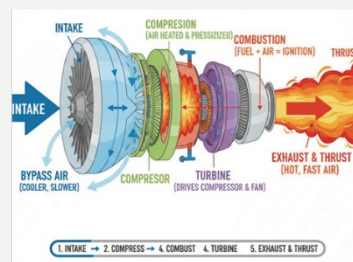
Potential application fields



Crystallization



High-temperature Processing



High-temperature Combustion Process

In-situ Microscopic Imaging CVD System

Specifications

FE-CVD-B

FE-CVD-A

FE-CVD-S

Imaging maximum working temperature	600 °C	900 °C	≤ 900 °C
Spatial resolution	3 μm		≥ 2 μm
Field range	≥ 1000 × 1000 μm		≥ 200 × 200 μm
Objective lens working distance	60 mm		20 mm / 60 mm
Camera bit depth	8-bit		Highest: 16-bit
Imaging wavelength	532 nm		
Imaging heating zone	Zone 1 (Left Zone)		Left Zone / Right Zone
Heating zone quantity	2 zones		
Zone length	20 cm (Left Zone) +3 cm (Partition Wall) +10 cm (Right Zone)		Customizable
Maximum quartz tube diameter	25.4 mm	50 mm	100 mm
Minimum temperature step	±1 °C		
Working voltage	220 V		
Working temperature/relative humidity	5 ~ 40 °C / < 80%		
Warranty period	1 year		

FE-CVD-ProB

FE-CVD-ProA

FE-CVD-ProS

Imaging maximum working temperature	900 °C	950 °C	950 °C
Spatial resolution	1.5 μm	1 μm	≥ 1μm
Field range	≥ 200 × 200 μm		
Objective lens working distance	20 mm		
Camera bit depth	12-bit		Highest: 16-bit
Imaging wavelength	532 nm		
Imaging heating zone	Zone 1 (Left Zone)		Left Zone / Right Zone
Heating zone quantity	2 zones		
Zone length	20 cm (Left Zone) +3 cm (Partition Wall) +10 cm (Right Zone)		Customizable
Maximum quartz tube diameter	25.4 mm	50 mm	100 mm
Minimum temperature step	±1 °C		
Working voltage	220 V		
Working temperature/relative humidity	5 ~ 40°C / < 80 %		
Warranty period	1 year		