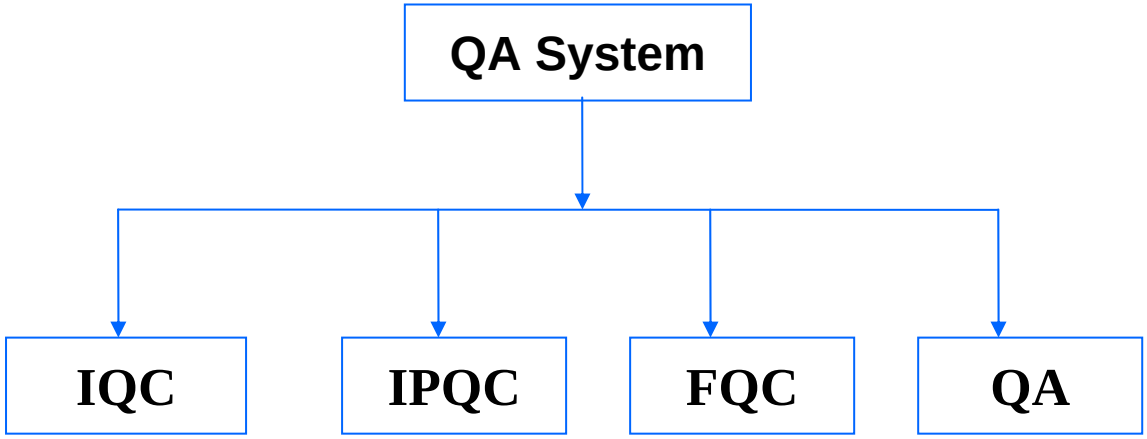
Quality Assurance (QA) System in CRYSTECH Inc.

- Aim of QA System
- Frame of QA System
- Production Line and its QA System
- Measuring Equipments

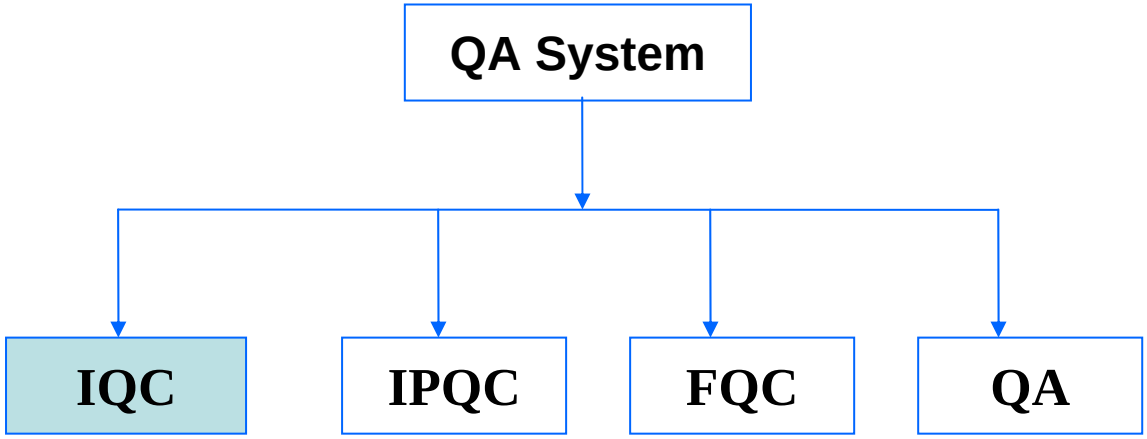
1. Aim of QA System

With the continuous development of technology，we strive to improve the quality of our products to meet the customers’ requirements with competitive solutions.

2. Frame of QA System



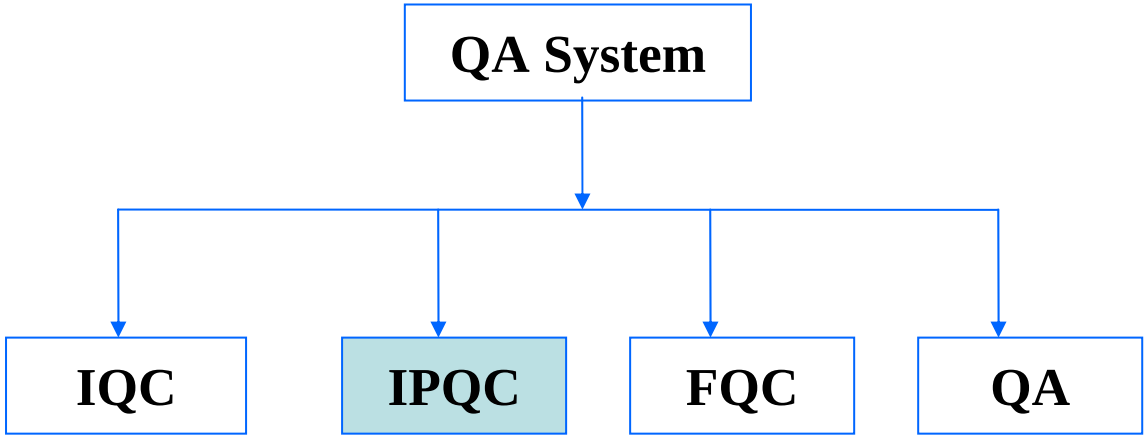
2. Frame of QA System



IQC (Incoming Quality Control):

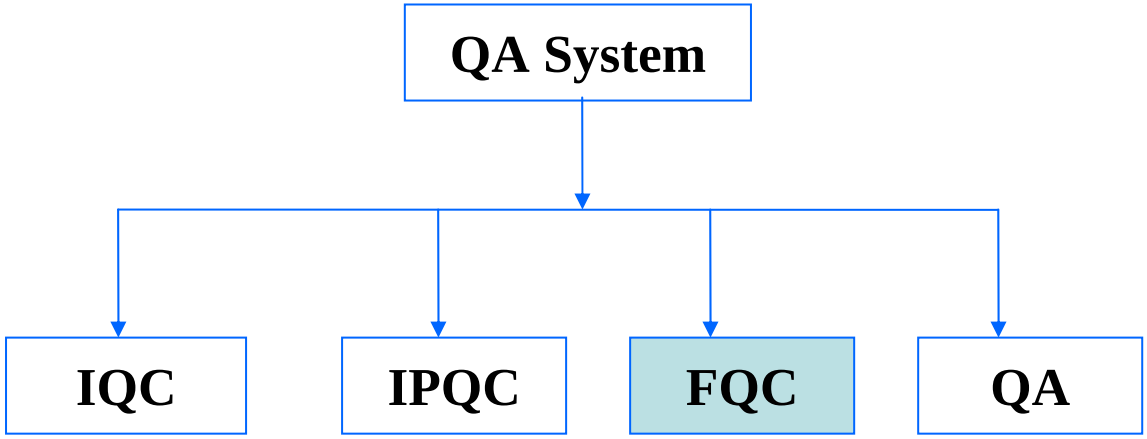
responsible for the incoming raw materials' quality control, such as inclusion, impurity, etc.

2. Frame of QA System



IPQC (In Process Quality Control):
checks every quality item upon completion of each stage.

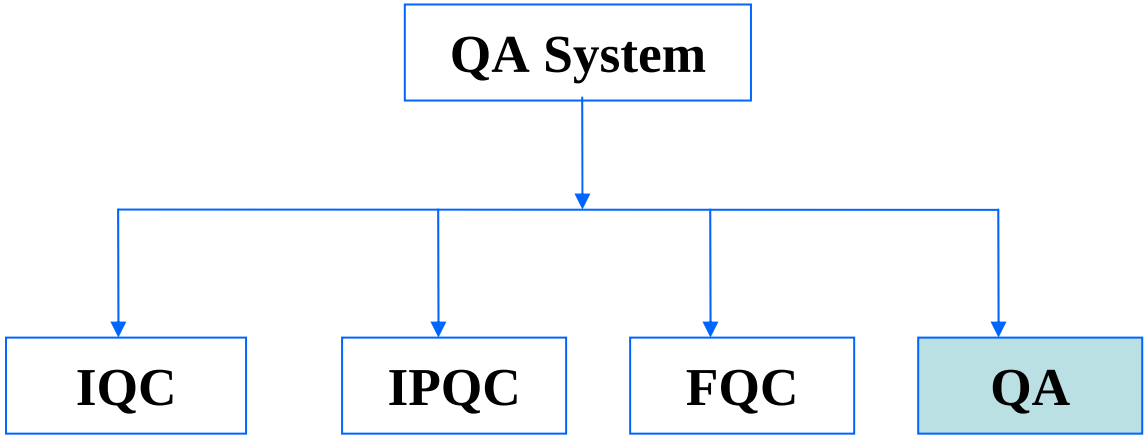
2. Frame of QA System



FQC (Final Quality Control):

responsible for the final quality control. It conducts a thorough check of all the quality items, such as Dimension, Wavefront distortion, Parallelism, Perpendicularity, Chip, Bevel, etc.

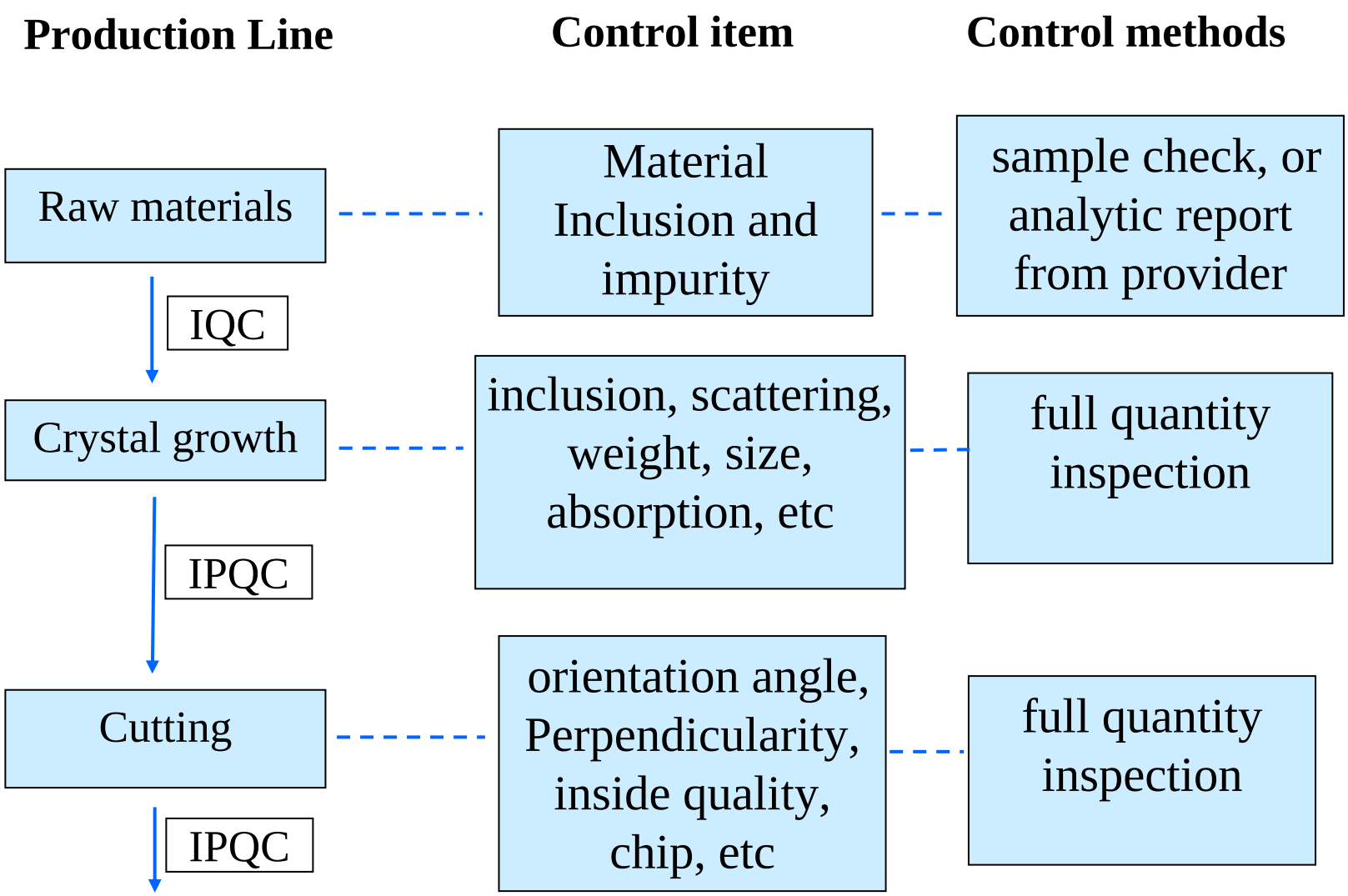
2. Frame of QA System



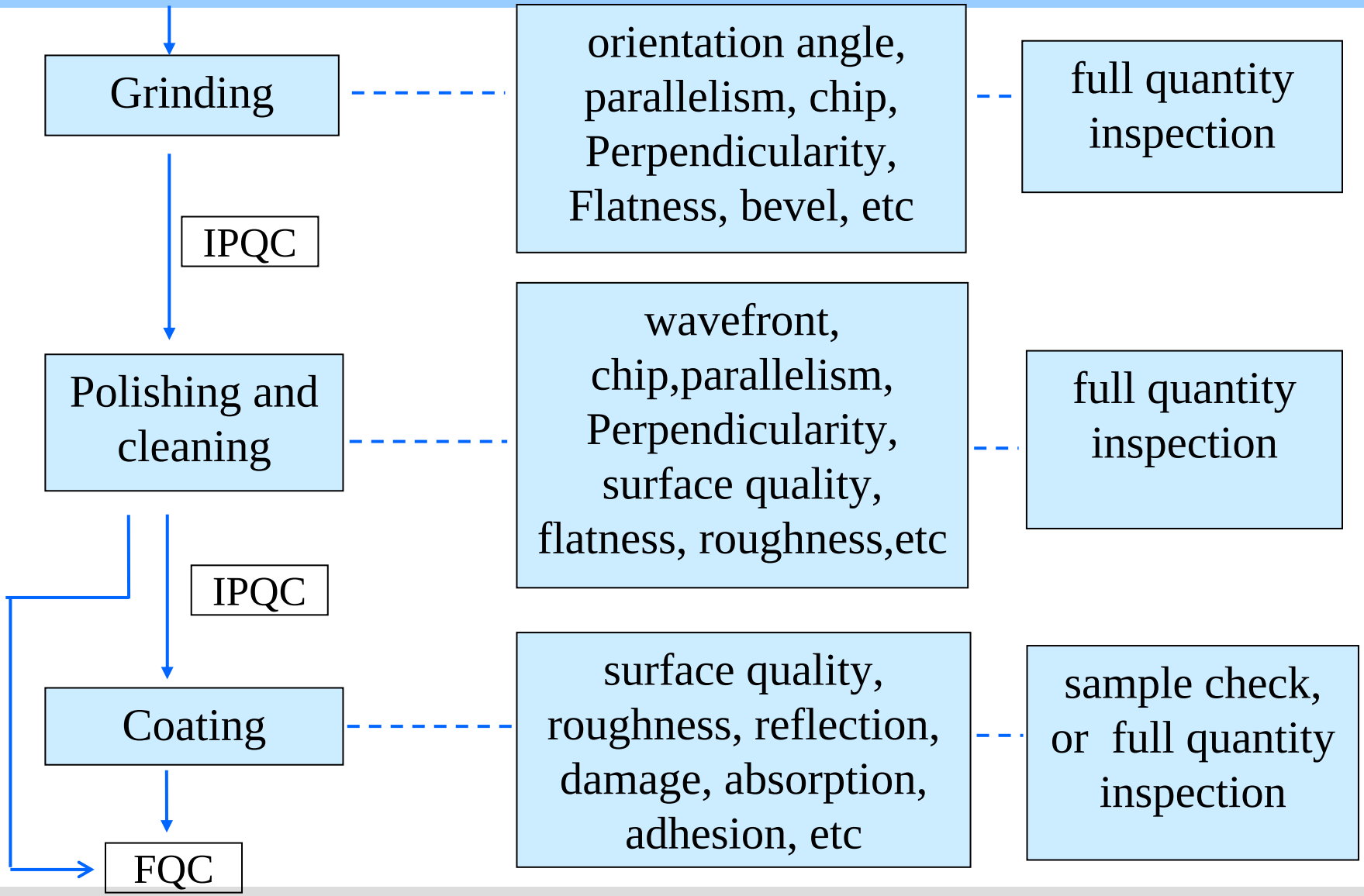
QA (Quality Assurance):

involved in all the works concerning quality assurance. such as crystal absorption and transmission Test, data analysis, quality standard making, measurement equipments calibration, data analysis, customer complaint handling, etc.

3. Production Line and its QA System



3. Production Flow and its QA System



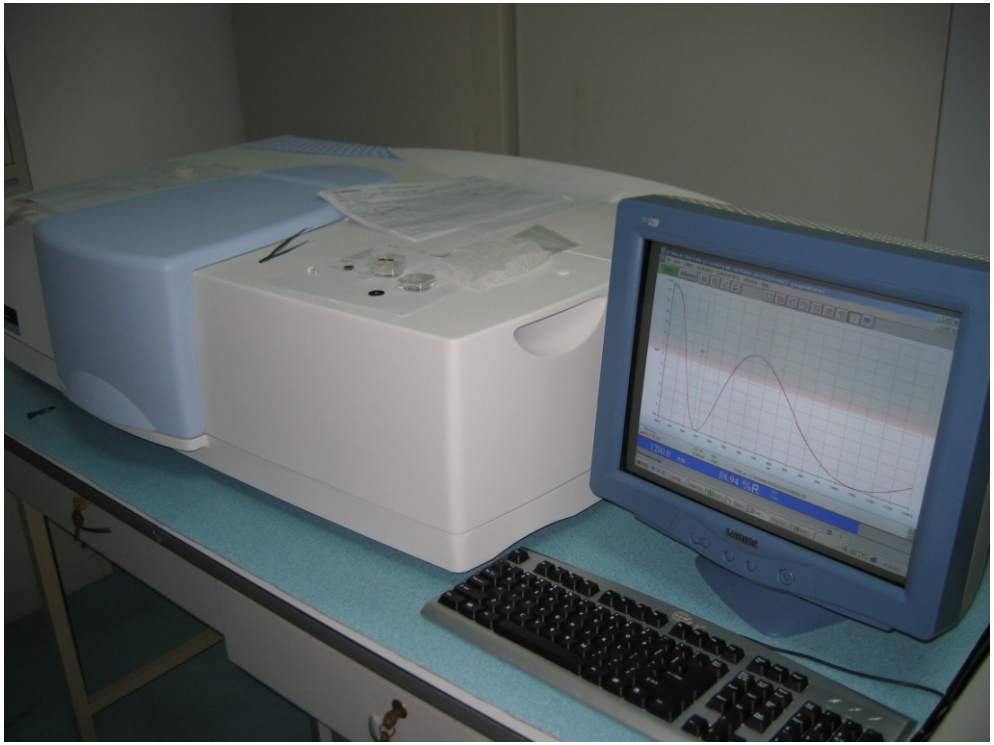
Reference Standards

- MIL-PRF-13830B Surface Quality
- MIL-C-48497 Coating Test
- MIL-STD-105E Sample Inspection
- ISO-11254 Damage Threshold

4. Measuring Equipments

X-ray orientation determination instrument
Measurement: orientation angle (θ . ϕ)
Measurement precision: $1'$

4. Measuring Equipments



Perkin Elmer®
Lambda 950
UV/VIS
spectrometer

Measurement: reflection (T%), transmission (R%), absorption (A%), etc.

wavelength range: 175nm ~ 3000nm

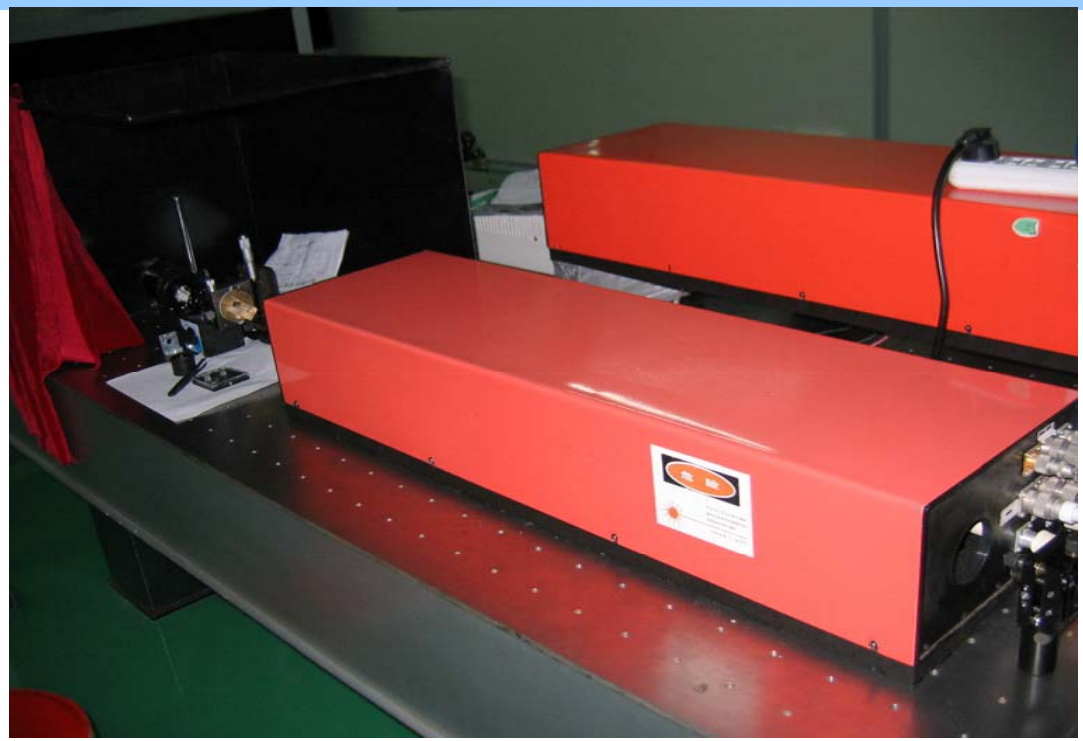
Measurement precision: Transmission 0.02%; Reflection 0.01%

Instrument precision: Wavelength Reproducibility (UV/Vis) 0.2nm

4. Measuring Equipments

ZYGO GPI XP Interferometer
Measurement: wavefront distortion, parallelism, flatness,
Measurement Precision: flatness $\lambda/20$, parallelism $0.5''$

4. Measuring Equipments



1064nm Pulse laser

Measurement: crystal and coating damage threshold

pulse duration: 10ns,

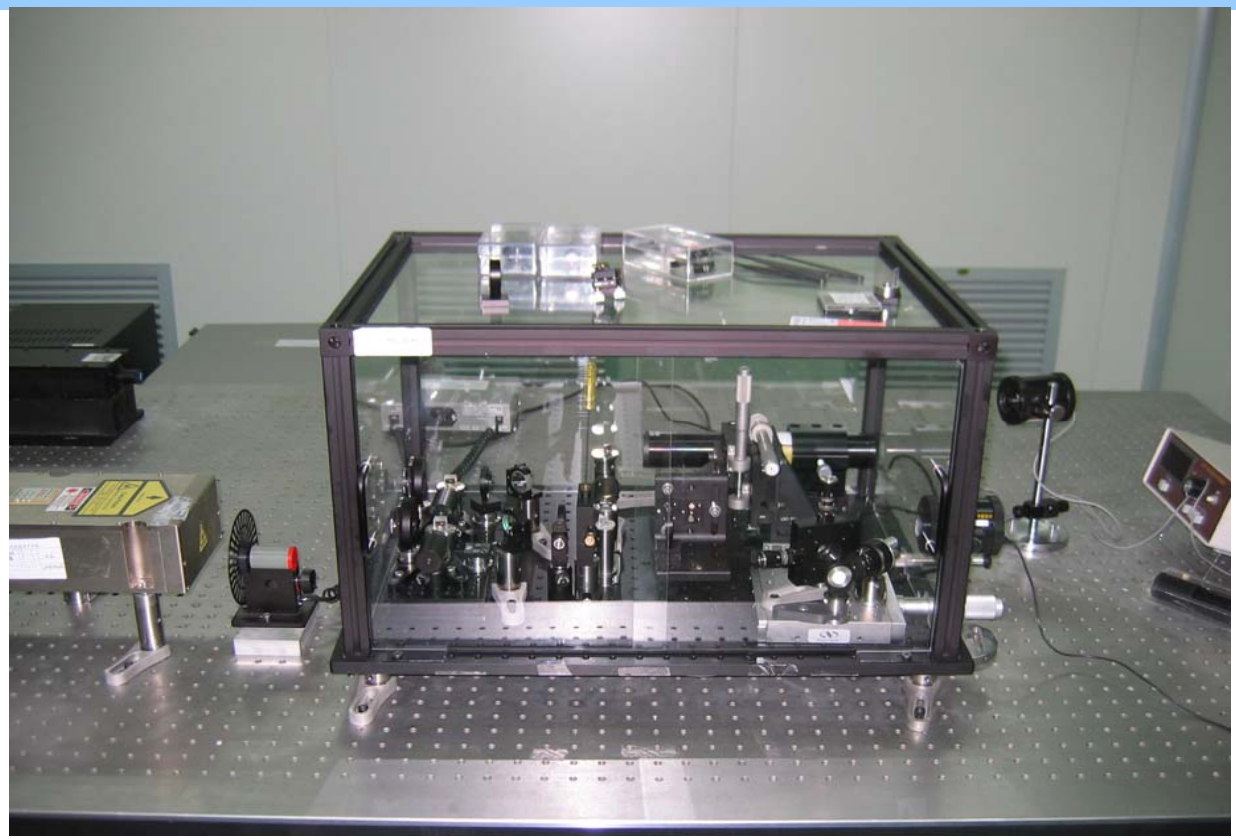
pulse frequency: 1Hz,10Hz, 20Hz, 30Hz

pulse energy: adjustable. Up to 600mJ

4. Measuring Equipments

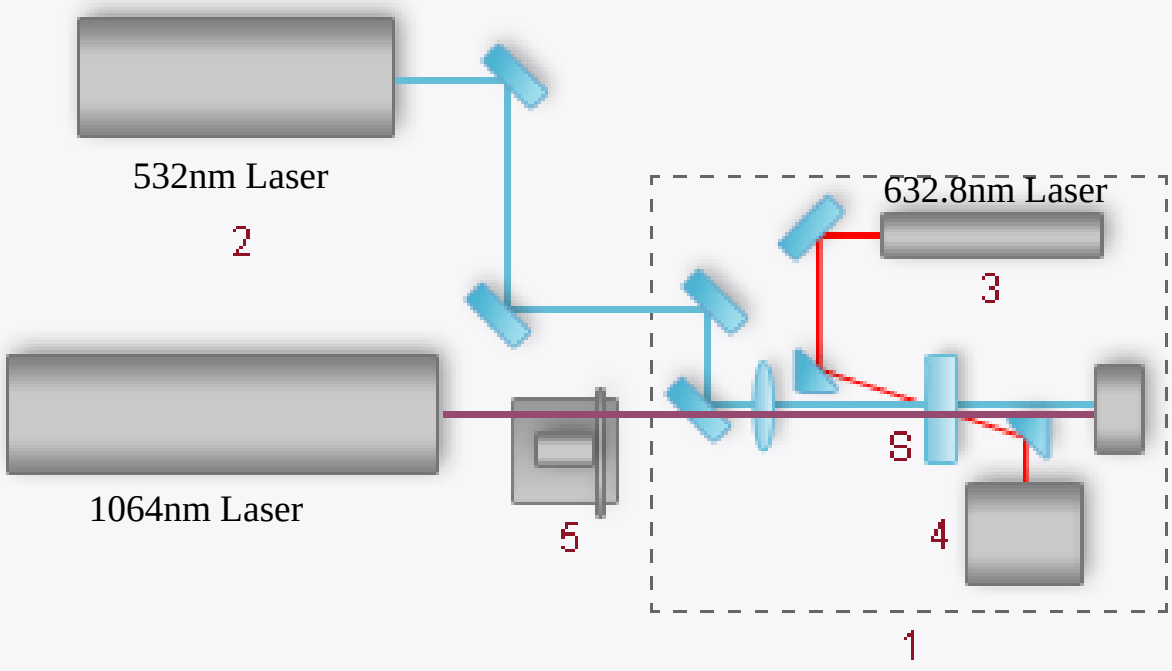
Zygo newview 300
Measurement: Roughness (Ra)
Measurement Precision: 1Å

4. Measuring Equipments



Photothermal Common-Path Interferometer (PCI)
Measurement: Bulk and Surface Absorption of Crystal, Gray Tracking Effect
Measurement Precision: 5ppm, error ±10%

4. Measuring Equipments



PCI-02 optical setup schematics

1. Instrument
2. Pumps
3. Probe He-Ne
4. Imaging unit
5. Chopper
S. Sample

Attenuators (not shown) are located inside the instrument.

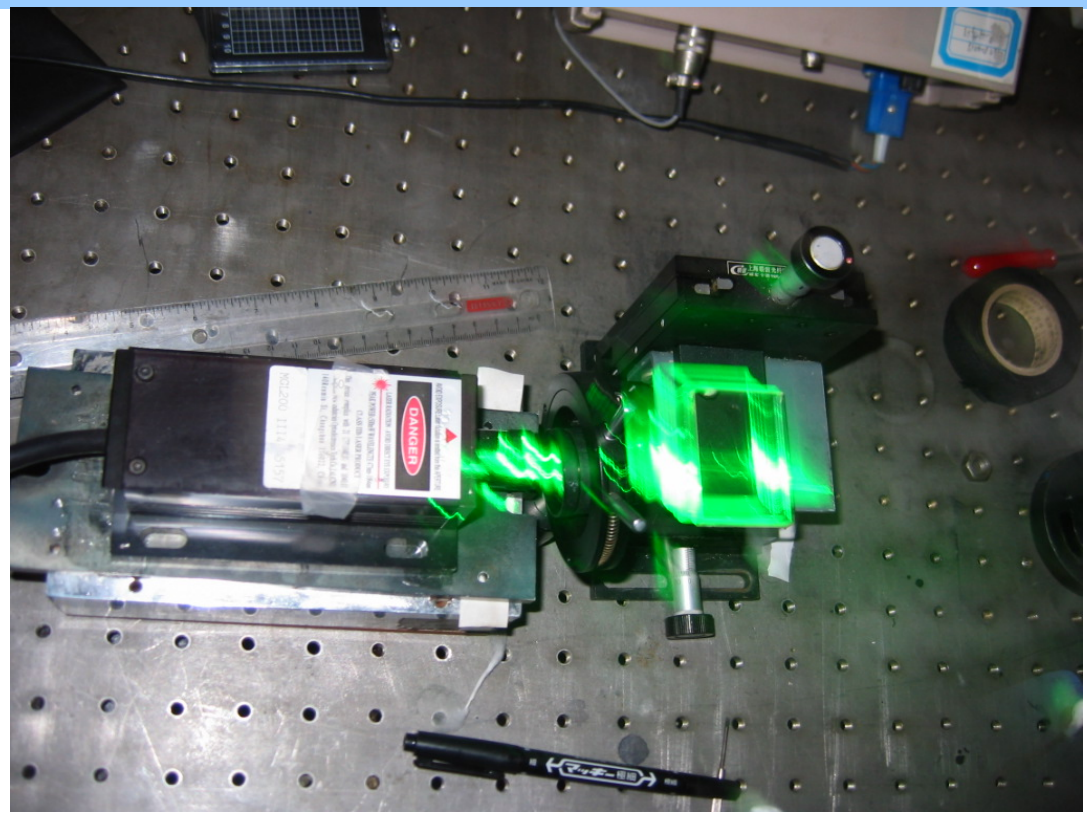
4. Measuring Equipments

Environmental Experiment Instrument
Temperature Range: (-40~150℃) ;
Humidity: 30%~98%
Experiment: Coating under extreme temperature and humidity.

4. Measuring Equipments

Olympus BX51 microscope
Inspection item : surface quality after coating and polishing
adjustable magnification 100X~500X

4. Measuring Equipments



DPSS green laser

Boule Inside Quality (Inclusion) inspection

Output power : 200mw

CRYSTECH Inc.
Zhuzhou Rd. 177
Qingdao 266100
P.R.China

Tel. +86-532-88703717
Fax.+86-532-88701077
E-mail: sales@crystech.com
Homepage: www.crystech.com