OXIDE Corporation

QPM device instruction

Material related issue

1. QPM devices (PPMgSLT, PPMgLN) are not hydroscopic, therefore, it is not so critical material for humidity like LBO, BBO, CLBO.
2. QPM devices (PPMgSLT, PPMgLN) are made of ferroelectric materials and they have relatively large pyrroelectricity. Therefore, please avoid quick temperature change.
3. Thickness of QPM devices is relatively thin (0.3 ~ 3.0mm). Therefore, they are easily damaged by dropping or clamping tightly.

Handling and cleaning

1. The devices are recommended to unpack from the case only by qualified personnel under a dry and clean environment as following.

   Temperature: 23±2℃

   Humidity: ≦55%
2. Finger prints, oil and other substances should not contact the polished or coated surfaces directly.
3. Using tweezers or wearing a fingerstall to clamp the devices without touching the polished or coating surfaces. The use of metal tweezers is not recommended to avoid breaking or scratching the devices.
4. If the surfaces are contaminated, an air ball is recommended to blow on the surfaces. If there is still contamination on the devices surfaces, please clean the surfaces with cleaning liquid and soft silk. We recommend using such as methanol.

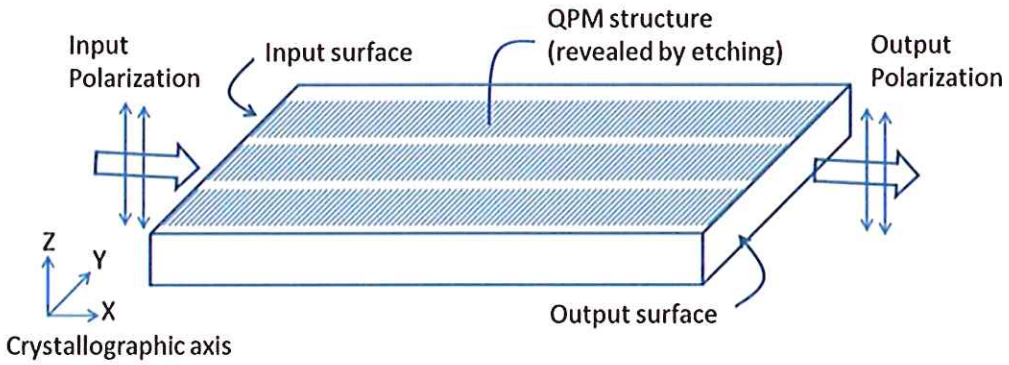
How to use QPM devices

1. Please make sure your laser power density is under the damage threshold of devices.
2. Please put the device on the sample holder. There is no differences of upside and downside.
3. In order to operate QPM device properly, it is recommended to control the temperature to obtain the best performance. It would be good idea to put the indium foil between the device and the sample holder in order to improve thermal conductivity between the device and the sample folder. (Please care the melting point of indium.)
4. When you put the sample holder cover, it is recommended to use torque wrench to tighten the screws.

If you have any questions, please contact OXIDE. (sales@opt-oxide.com)

OXIDE corporation
1747-1, Maginohara, Mukawa, Hokuto, Yamanashi, 408-0302, JAPAN

5. Please install the crystals according to the device phase-matching type and polarization directions of fundamental lasers, and carefully adjust the device along the tuning angle. Typical features of the QPM devices and polarization direction is shown in below. (Input and output beam polarization should be parallel to the crystallographic Z-axis.)
6. Please avoid directly touching the device surface. If the surface needs cleaning, it is recommended to be done by professional staff according to the cleaning manual.
7. Handling carefully during assembly, too strong pressure may cause the cracking of device.
8. Align the laser beam to the middle of the aperture. If the laser beam hits the side of the device, it may volatile something and cause pollution of the laser cavity and damage the device surface.
9. To find the phase matching condition, it is recommend to set the designed phase matching temperature first, and then tune ±10℃ around the designed value. In order to operate stably, it is recommended to control the temperature within ±0.1℃. (It depends on the device length and wavelength. Temperature tolerances become narrower for longer device and for shorter wavelength.)



Storage

1. Devices should be well cleaned after use and placed into the box. At the same time non-contact packaging is required to prevent scratches or smudges on the two light passing surfaces. Ensure that the packaging is sealed, neat, moisture-proof, shockproof and antistatic.
2. Devices should be stored under dry condition. They can be kept in vacuum packaging with desiccant to prevent from humidity and affects its normal function.
3. The recommended storage conditions; temperature 23 ℃ ± 2 ℃, humidity < 20%, clean (maintained at 1000), and isolated.

If you have any questions, please contact OXIDE. (sales@opt-oxide.com)

OXIDE corporation
1747-1, Maginohara, Mukawa, Hokuto, Yamanashi, 408-0302, JAPAN