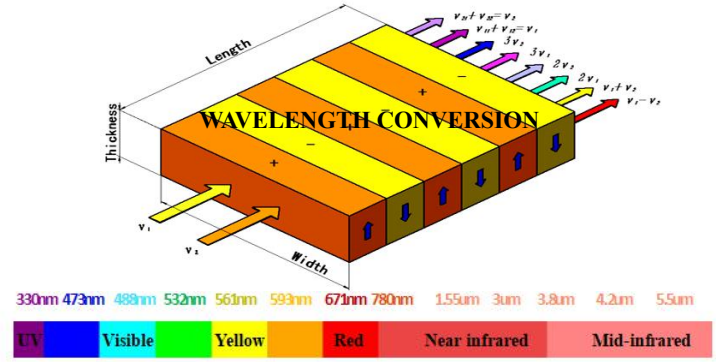
Periodically Poled LN(PPLN)

Introduction

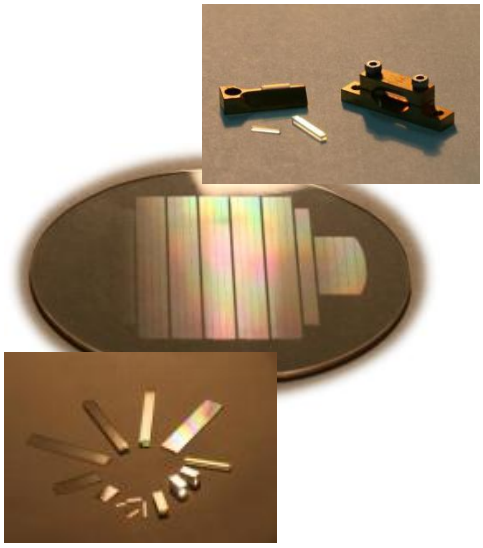
Based on the quasi-phase matching theory (QPM), the nonlinear optical crystal Lithium Niobate is made into a periodically inverted domain structure, called Periodically Poled Lithium Niobate (PPLN), to compensate for phase mismatch caused by dispersion, so that the effective nonlinear coefficient of the nonlinear optical crystal can be used to the greatest extent and the frequency conversion characteristics of the nonlinear crystal can be greatly improved.

- Excellent grating uniformity
- High conversion efficiency
- Free of Walk-Off
- Competitive price



The Specifications of PPLN

Type of conversion	SHG/DFG/SFG/OPO/OPA/OPG, etc.
Grating types	Single/Multi/Chirp/Fan-out/Cascade, etc.
QPM period	Standard and customized(4.0um~200um)
Transparency range	330nm~5500nm
Matching temperature	25℃~200℃
Thickness	Up to 5mm
Length	Up to 55mm
Duty Ratio	48%~52% or customized
Flatness	λ/6@632.8nm
Parallelism	<10”
Perpendicularity	<10’
Surface Quality	10-5
Coating Options	AR/HR



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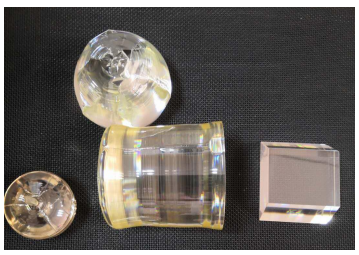
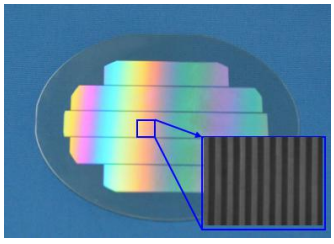
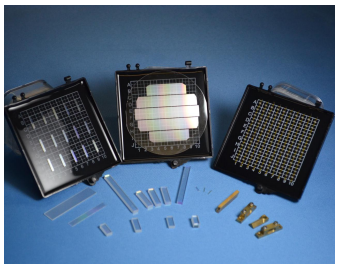


LN substrates



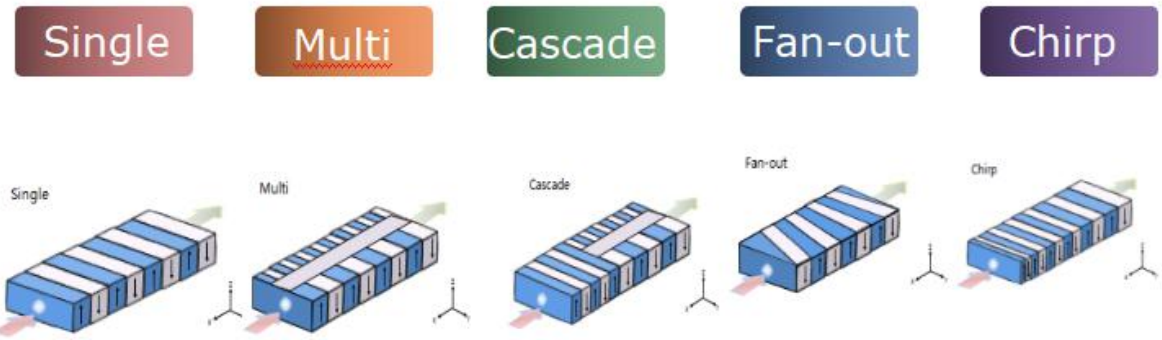
PPLN wafers



PPLN chips

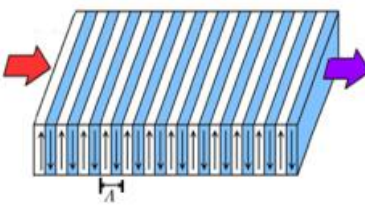
The Structure Types of PPLN

- Classified by the internal domain structure:

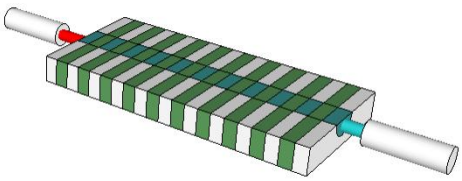


*Users can custom appropriate PPLN domain structure as their requirements.

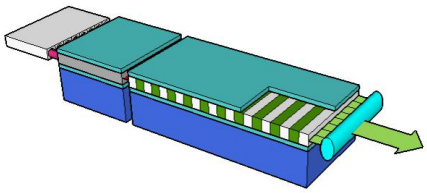
- Classified by the device structure:



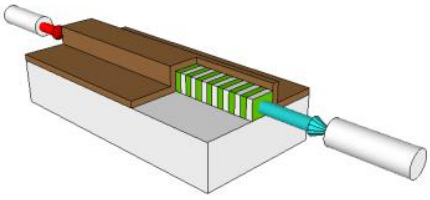
Bulk



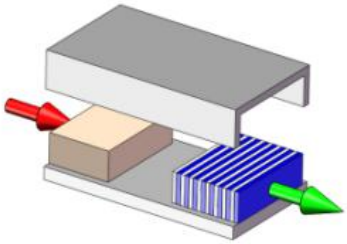
Buried waveguide



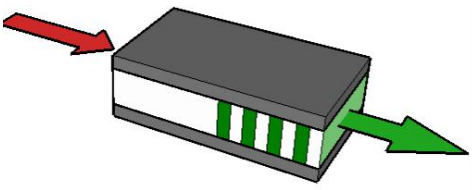
Slab waveguide



Ridge waveguide



Integrated with laser crystal



Optically contacted with laser crystal

*Users can choose their desired PPLN structure according to the pumped laser power, conversion efficiency, output laser power and size, etc.