

actuated device can permit phase matching over a tunable and wide bandwidth along the waveguides, which is useful for wideband pumps.

What is more, the optical forces also have impact on conversion efficiency for a single-frequency pump. The pump-induced deformation is not uniform along the waveguide and it results in the drop of the normalized conversion efficient. The equivalent phase-matching wavelength red-shifts when the pump power increases. The maximum conversion efficiency can be achieved at an optimal phase-matching wavelength with a shift of 50 nm.

We all believe that we can enhance the conversion efficiency and attain wider range of phase-matching wavelength tuning by changing waveguide structure, just like dual-web fiber [13, 27], to make the deformation uniformly along the waveguide, which it is always phase-matching.

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