

## **Fiber optical parametric amplifier with dispersion flattened photonics crystal fiber as a gain medium**

### **ABSTRACT**

A fiber optical parametric amplifier utilizing single continuous wave pump is demonstrated. Gain medium used for parametric amplification is a 50 m long dispersion flattened photonics crystal fiber. The relatively wide bandwidth of pump is able to suppress stimulated Brillouin scattering, allowing the parametric amplifier to operate without modulating the pump. Internal fiber gain as high as 17.1 dB can be achieved with this configuration.

**Keyword:** Fiber optical parametric amplifier; Four wave mixing