

# **Abstract**

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## **Analysis of Different Fiber Bragg Gratings for use in a Multi-wavelength Erbium Doped Fiber Laser**

A simple multi-wavelength laser source using, an erbium doped fiber (EDF) as a gain medium is proposed. The source is terminated by a chirped fiber Bragg grating (CFBG) on one side and cascaded FBGs on the other side. Different apodization profiles for the FBG are analyzed to improve the lasing wavelengths Selectivity. The Blackman profile is found to be the best to reduce the reflection spectrum sidelobes with a maximum reflectivity of 99%.