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**Birefringence in Ring Resonator by Free Spectral Range and Wavelength measurement.** CHOODA KHANAL, MAGDALENA NAWROCKA, XUAN WANG, TAO LIU, ROBERTO PANEPUCCI, FIU — The spectrum of coupled light through a 10  $\mu$ m diameter silicon-on-insulator ring resonator from a 1280-1620nm band tunable laser source is investigated. A wavelength dependent group index is calculated by measuring the Free Spectral Range of TM and TE modes. Group index for TM mode decreases with the increase in wavelength while that for TE modes increases slowly in the given wavelength range. Our preliminary data shows that the group index birefringence is almost 0.5 at the lower wavelength band. Moreover, analysis of FWHM, power dependence and dispersion will be presented with wavelength routing applications discussed.

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