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Coupling characteristics of two uniform microfibers

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**Abstract:** The coupling characteristics of two uniform microfibers are experimentally demonstrated. The uniform microfiber is fabricated from a silica-based single mode fiber (SMF) using an oxy-butane flame-brushing method. With the reduction of the overlapping length, the optical power oscillation is more obvious due to the improvement in the coupling coefficient. The output spectrum is also shifted to a shorter wavelength as the overlapping length is reduced. It is observed that the average wavelength shift of 0.88 nm is obtained for every reduction of overlapping length in the order of 0.02 mm. These characteristics are useful for designing micro-scale photonic filters.

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