Mode resolved bend-loss analysis in few-mode fibers using spatially and spectrally resolved imaging - DTU Orbit (28/07/2019)

The increasing use of few-mode fibers for high-speed optical communication systems in space division multiplexing has created a need for mode resolved characterization of few-mode fibers. In this Letter, we present a new method to characterize the bend loss of the individual modes in a few-mode fiber. This procedure uses a simple setup for spatially and spectrally resolved imaging and allows the measurement of the bend loss of each and every guided mode at once. It does not require the use of mode converters in contrast to other methods. Results for graded-index two-and four-mode fibers are presented, together with comparisons against direct bend-loss measurements for the four-mode and standard single-mode fibers. (C) 2015 Optical Society of America

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