

Transmission eigenchannels in random multimode fiber cavities

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We study transmission eigenchannels in multimode fiber cavities, composed of conventional low-loss multimode fibers coated with reflective coatings at the input and output facets. This configuration allows control over all the channels of the sample, providing access to the open transmission channels of the sample. By measuring the transmission matrix of the fiber cavity and launching the channel with the highest transmission eigenvalue, we achieve a 10-fold enhancement in the total power transmitted by the fiber cavity.