Intermode interference in multimode fiber

In this paper, the fiber optic cascade based on multimode interference (MMI) is demonstrated and investigated via COMSOL Multiphysics software. Two different cascades were adopted in this work, ...

In this paper, we report on a new approach to enhance the sensing capabilities of self-image phenomenon-based multimode interference sensors by setting SMS structures and FPIs into ...

In intermode OFS, the interference occurs between different modes, propagating in a few-mode or a multimode (MM) fiber, or between the fundamental mode and cladding modes of a ...

ngineering, Shibaura Institute of Technology, Tokyo 135-8548, Japan Abstract A strain-insensitive temperature sensor based on multimode interference using standard multimode bers ...

In this article, the generation mechanism of IMI effect is firstly theoretically analyzed. Then numerical simulations are carried out to investigate the impact of IMI accompanied with distributed ...

In this review, we critically summarize the multimode interference in TOFs and some of its applications with a focus on our research project ...

In this manuscript, we report on, to the best of our knowledge, the first experimental realization of a multimode interference device based on self-image phenomenon accomplished by ...

We investigate intermodal beatings in a multimode highly asymmetric two-core microstructured optical fiber. The modal interference theory plus finite-element calculations are used to define the expected ...

The first single mode fiber (SMF) responses for the excitation of multiple guiding modes when it is fused with the multimode fiber (MMF). These modes propagate along the MMF and ...

To overcome this limitation, we propose a new sensing approach that maps the intermodal interference in spatial domain. We achieve this by sparsely sampling the fiber transverse ...

It is shown that inter-modal interference is a sensitive parameter depending on the quality of an index profile or geometrical parameters of optical fibre.

This chapter addresses simple optical fiber sensors based on modal interference in multimode optical fibers: their working principles, potential applications, and challenges for industrial ...

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