Single-mode fiber coupling of space light

The coupling efficiency of light from multimode lasers or broadband light sources into the guided mode of a single mode fiber will be poor, even if the light is focused on the core region of the ...

In this paper, we assess the effects of AO correction on the statistical properties of single-mode fiber coupled flux based on experimental data obtained in the presence of medium and strong scintillation.

Therefore, improving the coupling efficiency of space light to single-mode fiber (SMF) by suppressing atmospheric turbulence, compensating for random jitter, and correcting alignment ...

We describe the results of tests coupling starlight from a 70 cm telescope at Mt. Hopkins, Arizona into the single-mode fiber of the MINERVA-Red spectrometer at a wavelength of ~850 nm using a low ...

Benefiting from the rapid development of fiber-optic devices, high-speed free-space optical (FSO) communication systems have recently used fiber-optic components. The received laser ...

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Schematic for a phase space representation of a range of fiber-coupled free-space optical systems. The Wigner phase space distribution function is used to study the transition from single-mode to multi ...

Eficient coupling of light from an optical cavity to a single-mode fiber is required in a range of quantum technologies. In this work we consider the coupling of a high-finesse macroscopic Fabry-Pérot (FP) ...

Maksutov-Cassegrains are widely used in free-space optical communication. The coupling efficiency and variance of a Maksutov-Cassegrain fiber (single-mode) system distorted by atmospheric ...

In 1988, Stuart S et al. studied the coupling of starlight into a single-mode fiber. They calculated that 80% of the incident power at the pupil could be coupled to a single-mode fiber located ...

This article demonstrates how to set up a coupling system and examines the multiple tools available in Sequential Mode for beam and fiber coupling analysis, including Paraxial Gaussian Beam ...

In order to reduce the effect of random angle jitter on coupling efficiency, an automatic coupling scheme for making space light into single-mode fiber based on laser nutation is...

In this paper, we proposed and investigated a SMF auto-coupling system consisting of two wedges driven by

stepper motors. We simulated and analysed the dual-wedge system"s ability of ...

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