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Compact Holographic Storage by Using a Fiber Bundle to Guide the Reference Beam

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Abstract: We propose a compact volume holographic storage system, in which a fiber bundle is used to guide the reference beam. For demonstrating the system, phase-coded multiplexing is implemented by changing the incident direction of the reference beam upon the fiber bundle. Shift multiplexing is also performed by moving the medium. Because no lens or complicated phase modulation system is necessary in the reference arm, the holographic storage system can become more compact. Multiple images are stored in a crystal using the phase coded and shift multiplexing techniques.

Key Words: [Optical holographic storage](#), [Phase coded multiplexing](#), [Shift multiplexing](#)

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