Arc-induced long-period gratings in aluminosilicate glass fibers

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Abstract
Permanent long-period gratings were written using arc discharges in two aluminosilicate fibers, one of which was doped with erbium. Reversible gratings were also mechanically induced in both fibers. The thermal behavior of the arc-induced gratings was investigated at up to 1100°C. It was found that the shift of the resonant wavelengths exhibited a well-defined linear dependence on temperature up to 700°C.