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Polarization mode dispersion in spun fibers with different linear birefringence and spinning parameters

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ABSTRACT

We show how the initial linear birefringence determines the necessary spinning parameters to produce spun fibre with optimum differential group delay (DGD) and polarisation mode dispersion (PMD) properties. DGD measurements are reported on two pairs of fibres, each pair having been fabricated from a particular fibre preform. The fibre pairs each consist of a sample of spun and unspun fibre. These measurements are then compared with theoretical simulations for each fibre to determine the required range of spinning parameters for a given initial linear birefringence. These results should help in optimising the spinning parameters for producing high performance spun fibres.