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Compression pulses by third-order soliton with different values of power in photonic crystal fibers

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The article includes third order solitons (TOS) is investigated in photonic crystal fibers (PCFs) with anomalous dispersion. Using a heavy negative β_2 dispersion-engineered, slow-light-enhanced nonlinearity of Kerr and careful selection of the pulse length. In this study included the effect of third-order soliton on dispersion as well as the possibility of obtaining multiple peaks by controlling the power. This technique of pulse compression has important benefits over the commonly reported compression strategies of adiabatic and soliton effect, The results showed the ability to control the shape of the pulse appeared in the high-orders and obtained seven pulses by inserting a single pulse and long distances by controlling both the power and the group velocity dispersion without relying on changes in nonlinear effects

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