Interaction of Bright Solitons in Spinor Bose-Einstein Condensates

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We consider a cold atomic gas with hyperfine spin $F = 1$ in one dimension. It was proven that the system possesses an integral point leading to the existence of multiple bright solitons. We examine the inelastic collision of solitons in the non-integral case. We show some aspects of the spin dynamics and bound state formation in low-energy collisions.