

# Soliton Management in an Erbium Doped Tapered Nonlinear Fiber

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In this work, we consider the generalised nonlinear Schrödinger Maxwell-Bloch equation, which describes the propagation of the optical soliton in an inhomogeneous erbium doped fiber medium. By means of Darboux transformation technique, two-soliton solutions are spawned based on the constructed Lax pair. Due to the different choices of the variable coefficients, various soliton structures are observed which are promising for potential applications in ultra large capacity transmission systems.

## References

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