Perhitungan Numerik Propagasi Soliton Gelap (Dark Soliton) pada Serat Optik dengan Pengaruh Suku Dispersi Orde Tiga
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Abstract

Propagasi pulsa optik pada serat optik nonlinier dapat dipelajari dengan memecahkan Persamaan Schrödinger nonlinier (NLS). Solusi persamaan NLS dapat dicari menggunakan metode perhitungan numerik yang menghasilkan gelombang soliton. Soliton gelap (dark soliton) menjadi salah satu solusi persamaan NLS. Karena keunggulannya soliton gelap dapat dimanfaatkan pada sistem serat optik. Split Step Fourier Method (SFFM) digunakan untuk mempelajari terbentuknya soliton gelap pada panjang gelombang mendekati daerah zero dispersion yang mengakibatkan dominannya suku dispersi orde tiga.

Keywords: Soliton Gelap, Persamaan nonlinier Schrödinger, Split Step Fourier Method

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