



## Vector Soliton

By Lambert M. Surhone

Betascript Publishers Dez 2009, 2009. Taschenbuch. Condition: Neu. Neuware - Please note that the content of this book primarily consists of articles available from Wikipedia or other free sources online. In physical optics or wave optics, a vector soliton is a solitary wave with multiple components coupled together that maintains its shape during propagation. Ordinary solitons maintain their shape but have effectively only one (scalar) polarization component, while vector solitons have two distinct polarization components. Among all the types of solitons, optical vector solitons draw the most attention due to their wide range of applications, particularly in generating ultrafast pulses and light control technology. Optical vector solitons can be classified into temporal vector solitons and spatial vector solitons. During the propagation of both temporal solitons and spatial solitons, despite being in a medium with birefringence, the orthogonal polarizations can copropagate as one unit without splitting due to the strong cross-phase modulation and coherent energy exchange between the two polarizations of the vector soliton which may induce intensity differences between these two polarizations. Thus vector solitons are no longer linearly polarized but rather elliptically polarized. 64 pp. Englisch.



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