



## **Freak waves in modified KdV soliton gas**

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The dynamics of heteropolar soliton field in the framework of modified Korteweg – de Vries equation is studied. As a first step, elementary act of soliton turbulence is considered. Interaction of two solitons with different polarity leads to amplitude increasing of final impulse in the moment of nonlinear interaction. That makes the appearance of abnormal waves in random soliton fields possible. The main attention in present work is paid to study of freak waves appearance in heteropolar soliton gas. Distribution functions of amplitude characteristics are analyzed. Statistical moments are found as well. Probability and intensity of freak waves appearance in soliton fields with different soliton density are analyzed.