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## **Dissipative Solitons stabilized by Nonlinear Gradient Terms**

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After reviewing briefly the properties of dissipative solitons (DSs) in the cubic-quintic complex Ginzburg-Landau equation, we discuss DSs stabilized exclusively by nonlinear gradient terms. These DSs have been found recently by Facao and Carvalho [1]. Here we elucidate their properties [2], study the influence of multiplicative noise [3] and investigate the transition from oscillatory DSs to localized spatio-temporal disorder [4].

[1] M. Facao and M.I. Carvalho, Phys. Rev. E **92**, 022922 (2015), E **96**, 04220 (2017).

[2] O. Descalzi, J. Cisternas, and HRB, Phys. Rev. E **100**, 052218 (2019).

[3] O. Descalzi, C. Cartes, and HRB, Phys. Rev. E **103**, L050201 (2021).

[4] O. Descalzi, C. Cartes, and HRB, Phys. Rev. E **105**, L062201 (2022)