



*Departamento de Matemática Aplicada*

Seminario  
**Matemática Aplicada - UCM**  
**Curso 2014-2015**

**11:00. Miércoles 10 de diciembre de 2014**

Facultad de CC. Matemáticas  
Sala 209. Seminario Alberto Dou  
Eduardo Colorado

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**“Positive bound and ground states for some systems of coupled nonlinear Schrödinger equations and Schrödinger-KdV equations”**

ABSTRACT :

Along this talk, will be presented some existence results, among others, for some evolutionary systems of coupled nonlinear Schrödinger (NLS) equations and also for systems of coupled NLS–Korteweg-de-Vries (KdV) equations. More precisely, we will show existence of positive bound and ground states for the corresponding stationary systems when one looks for solitary wave solutions of the NLS systems and solitary-traveling wave solutions of the NLS-KdV ones.

The results presented in this talk are contained in the following papers.

- . [1] A.Ambrosetti&E.Colorado, Bound and ground states of coupled nonlinear Schrödinger equations. C. R. Math. Acad. Sci. Paris 342 (2006), no. 2, 453-458.
- . [2] A. Ambrosetti & E. Colorado, Standing waves of some coupled nonlinear Schrödinger equations. J. Lond. Math. Soc. (2) 75 (2007), no.1, 67-82.
- . [3] E. Colorado, Positive solutions to some systems of coupled nonlinear Schrödinger equations. Nonlinear Analysis 110 (2014) 104-112.
- . [4] E. Colorado, Existence of bound and ground states for a system of coupled nonlinear Schrödinger-KdV equations. Preprint ArXiv:1410.7638v2.
- . [5] E. Colorado, On the existence of bound and ground states for some coupled nonlinear Schrödinger–Korteweg-de Vries equations. In preparation.

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