



Two-dimensional electromagnetic solitons in a perpendicularly magnetized ferromagnetic slab

Submitted by Emmanuel Lemoine on Wed, 10/29/2014 - 11:46

| | |
|-----------------------|---|
| Titre | Two-dimensional electromagnetic solitons in a perpendicularly magnetized ferromagnetic slab |
| Type de publication | Article de revue |
| Auteur | Leblond, Hervé [1], Manna, Miguel Alberto [2] |
| Editeur | American Physical Society |
| Type | Article scientifique dans une revue à comité de lecture |
| Année | 2009 |
| Langue | Anglais |
| Date | 2009/08/27 |
| Numéro | 6 |
| Pagination | 064424 |
| Volume | 80 |
| Titre de la revue | Physical Review B |
| ISSN | 1098-0121 |
| Résumé en anglais | We consider the nonlinear propagation of bulk polaritons in a magnetically saturated ferromagnetic thick film, the applied magnetic field being perpendicular to the film plane. A (2+1)-dimensional asymptotic model equation generalizing the sine-Gordon one is derived. Line-soliton solutions are exhibited, their stability condition is derived. When unstable, line solitons decay into stable two-dimensional lumps, which are studied by means of variational analysis. |
| URL de la notice | http://okina.univ-angers.fr/publications/ua5174 [3] |
| DOI | 10.1103/PhysRevB.80.064424 [4] |
| Lien vers le document | http://dx.doi.org/10.1103/PhysRevB.80.064424 [4] |

Liens

- [1] <http://okina.univ-angers.fr/herve.leblond/publications>
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=8697](http://okina.univ-angers.fr/publications?f[author]=8697)
- [3] <http://okina.univ-angers.fr/publications/ua5174>
- [4] <http://dx.doi.org/10.1103/PhysRevB.80.064424>

Publié sur *Okina* (<http://okina.univ-angers.fr>)