



Reflection of Channel-Guided Solitons at Junctions in Two-Dimensional Nonlinear Schroedinger Equation

Yusuke Kageyama, Hidetsugu Sakaguchi

(Submitted on 6 Apr 2012)

Solitons confined in channels are studied in the two-dimensional nonlinear Schrödinger equation. We study the dynamics of two channel-guided solitons near the junction where two channels are merged. The two solitons merge into one soliton, when there is no phase shift. If a phase difference is given to the two solitons, the Josephson oscillation is induced. The Josephson oscillation is amplified near the junction. The two solitons are reflected when the initial velocity is below a critical value.

Comments: 3 pages, 2 figures

Subjects: **Pattern Formation and Solitons (nlin.PS)**

Cite as: **arXiv:1204.1436v1 [nlin.PS]**

Submission history

From: Hidetsugu Sakaguchi [[view email](#)]

[v1] Fri, 6 Apr 2012 08:52:40 GMT (195kb)

[Which authors of this paper are endorsers?](#)

Link back to: [arXiv](#), [form interface](#), [contact](#).

Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

nlin.PS

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1204](#)

Change to browse by:

[nlin](#)

References & Citations

- [NASA ADS](#)

Bookmark([what is this?](#))

