

# On the construction of the KP line-solitons and their interactions

Sarbarish Chakravarty, Tim Lewkow, Ken-ichi Maruno

(Submitted on 12 Nov 2009)

The line-soliton solutions of the Kadomtsev--Petviashvili (KP) equation are investigated in this article using the tau-function formalism. In particular, the Wronskian and the Grammian forms of the tau-function are discussed, and the equivalence of these two forms are established. Furthermore, the interaction properties of two special types of 2-soliton solutions of the KP equation are studied in details.

Comments: 16 pages, 6 figures, To appear in *Applicable Analysis*, Special Issue "Solitons and Integrable Systems"

Subjects: **Exactly Solvable and Integrable Systems (nlin.SI)**; Mathematical Physics (math-ph); Pattern Formation and Solitons (nlin.PS)

Cite as: [arXiv:0911.2290v1](#) [nlin.SI]

## Submission history

From: Kenichi Maruno [[view email](#)]

[v1] Thu, 12 Nov 2009 03:17:13 GMT (574kb)

*Which authors of this paper are endorsers?*

## Download:

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

Current browse context:

**nlin.SI**

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

[new](#) | [recent](#) | [0911](#)

Change to browse by:

[math](#)

[math-ph](#)

[nlin](#)

[nlin.PS](#)

## References & Citations

- [CiteBase](#)

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

[CiteULike logo](#)

[Connotea logo](#)

[BibSonomy logo](#)

[Mendeley logo](#)

[Facebook logo](#)

[del.icio.us logo](#)

[Digg logo](#)

[Reddit logo](#)