

Report on the manuscript
Nonlinear transmission line: shock waves and the simple wave approximation
by Eugene Kogan

In its present form, the manuscript is not ready for publishing elsewhere. It looks like a collection of disjointed notes sketched by a researcher for his personal use, say, to memorize some ideas. Perhaps, these have potential to get exciting upon suitable elaboration but now they are not readable for anybody else.

In more concrete words, the manuscript currently addresses three topics

- (i) travelling waves in lossy transmission lines ,
- (ii) the waves called simple in the lossless lines
- (iii) some links to KdV equations.

Each one of these is interesting by itself but I have not seen any links between them explained in the manuscript. Moreover, only the considerations of (i) give a concrete result, which, nevertheless, has not been discussed properly. The author just put a couple of formulae practically with no comments. At the same time he has been saying a lot about the other two topics but with no concrete results.

One more serious flaw of the manuscript is the misuse of the common terminology that's very misleading. The author talks about the shocks while the common name to what he has found out is kinks, and they are smooth. They can tend to form a shock sometimes, but there are no such results in the manuscript. The 'decoupling' discussed as a new technique in connection with the lossless lines is the very classical and common procedure of setting to Riemann's invariants, which, by the way, allows for applying powerful methods of integration.

So I recommend the real and a very thorough revision. There should be one topic and one result, carefully elaborated and interestingly exposed.