

INTERACTIONS OF DELTA-SHOCK WAVE

JinAh Hwang¹, Mounjin Shin¹, Suyeon Shin¹ and Woonjae Hwang²

1) *Department of Mathematics, Korea University, Seoul, 136-713, KOREA*

2) *Department of Information and Mathematics, Korea University, Sejong, 339-700, KOREA*

Corresponding Author : Woonjae Hwang, woonjae@korea.ac.kr

ABSTRACT

Since Tan et al. [1] introduced a delta shock wave in 1994, there has been progress in understanding of a delta shock. We investigate interactions of delta shock by using generalized characteristic analysis and compute the numerical solution for one- and two-dimensional Riemann problems.

ACKNOWLEDGMENT

This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, (Grant No. 2010-0025523).

REFERENCES

1. D.C. Tan, T. Zhang, T. Chang and Y.X. Zheng“Delta-shock waves as limits of vanishing viscosity for hyperbolic systems of conservation laws”, *J. Differential equations*, Vol. 112, 1994, pp. 1-32.
2. C. Shen, M. Sun and Z. Wang“ Global structure of Riemann solutions to a system of two-dimensional hyperbolic conservation laws”, *Nonlinear Analysis*, Vol. 74, 2011, pp. 4754-4770.
3. M. Sun“Interactions of delta shock waves for the chromatography equations”, *Applied Mathematics Letters*, Vol. 26, 2013, pp. 631-637.