

Centro de Investigação em Matemática e Aplicações
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Programa de Doutoramento em Matemática

Seminar

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Zoom address: <https://videoconf-colibri.zoom.us/j/98650312699>

Shock and delta shock waves in several physical models

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Abstract: In this talk we present a study of a Riemann problem for a one-dimensional 2×2 system of conservation laws, which includes some particular cases of known physical systems. The main results of this study reveal the emergence of shock waves and delta shock waves as explicit solutions. We use the concept of α -solution defined in the setting of a product of distributions not defined by approximation. Notably, this study does not assume any classical results about conservation laws, presenting a simpler and more general framework for constructing singular solutions to other equations or systems.

Keywords: Products of distributions, conservation laws, delta shock waves and shock waves, Riemann problem.

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