(Partial) bibliography for the Evans function

Here are some commonly cited references for where the Evans function was first developed. Note: this list is not meant to be complete. See [San02] for a (much) more complete survey.

1. [Eva73b] To the best of my knowledge this is the first time the Evans function was defined, and it is named after the author of this paper. The context is traveling pulses in neural models consisting of a scalar reaction-diffusion equation coupled to a system of ODEs. He gave a rigorous proof of stability, using the Evans function, in this context.

2. [Jon84] This is one of the first mathematically rigorous uses of the Evans function for singularly perturbed systems, carried out in the context of the Fitz-Hugh Nagumo model of nerve impulses.

3. [Yan85] Another rigorous proof of stability of the traveling wave in Fitz-Hugh Nagumo, obtained independently and simultaneously.

4. [AGJ90] This is where the Evans function was first made mathematically rigorous in a general setting: dissipative reaction-diffusion equations.

5. [PW92] Here rigorous Evans function theory was developed in the context of solitary waves, ie traveling wave solutions of dispersive equations like KdV. Connections were also made to the Hamiltonian structure of such systems.

I have included in the reference list, below, everything in my "master" bibliography to which I've given the keyword "Evans function."

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