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# COUPLED REACTION-DIFFUSION EQUATIONS WITH DEGENERATE DIFFUSIVITY: WAVEFRONT ANALYSIS

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We investigate wavefront solutions for nonlinear systems of two coupled reaction-diffusion equations with degenerate diffusivity. These systems mainly appear in modeling spatial-temporal patterns during bacterial growth. We prove, for sufficiently large speeds, the existence and uniqueness, up to translations, of a traveling wave whose profile is component-wise monotone. On this purpose we combine the fixed-point theory, the central manifold theorem and a comparison technique. Finally, by employing a first-order reduction method, we prove that the set of admissible speeds is connected and closed and that the traveling wave is classical for speeds strictly bigger than the threshold, for which a sharp profile appears. This is a joint work with Eduardo Muñoz-Hernández (Madrid) and Elisa Sovrano (Reggio Emilia) .

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