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Models of morphogen transport

Transport of morphogens is a process occurring in the tissue, affecting cell differentiation. In [1] authors proposed several mathematical models (systems of PDEs of reaction-diffusion type) of this process. In [2] a detailed analysis of two of those models was made in 1D setting. I will present my recent results concerning global in time existence and asymptotic behavior for the 3D setting.

References

[1] Lander, A. D., Nie, Q., Wan, Y. M. *Do Morphogen Gradients Arise by Diffusion?* Dev. Cell, Vol. 2, pp. 785-796.

[2] Krzyżanowski, P., Laurençot, P., Wrzosek, D. *Well-posedness and convergence to the steady state for a model of morphogen transport*, SIAM J.MATH. ANAL. Vol. 40, No. 5, pp. 1725-1749.