Tumor development model with vasculature

A. Fernández Romero; F. Guillén González[†] and A. Suárez Fernández*

Keywords: Parabolic system, speed diffusion, tumor growth, simulations

Mathematics Subject Classification (2010): .

One of the worst illness nowadays is cancer and, in particular, brain cancer. In this work, we will present a model of the principal brain tumour, glioblastoma. This model includes as variable the vasculature, that will have a special role due to its influence on the speed of the tumor diffusion. We will check medical outcomes from our model, theoretical aspects and some numerical simulations in different situations.

Acknowledgements

This research is partially supported by Ministerio de Economía y Competitividad under grant MTM2015-69875-P.

^{*}Dpto. EDAN, University of Seville, Campus de Reina Mercedes, 41012 Sevilla (Spain). Email: afernandez61@us.es, suarez@us.es †Dpto. EDAN, University of Seville, Campus de Reina Mercedes, 41012 Sevilla (Spain). Email: guillen@us.es