

A MODEL FOR THE GROWTH OF A p62-UBIQUITIN AGGREGATE INVOLVED IN CELLULAR AUTOPHAGY

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The formation of p62-Ubiquitin aggregates is a key step in cellular autophagy (See [1]), a process that has raised a lot of interest these last years among cell biologists (See e.g. [2]). In this talk, we will present a model that describe the growth of a p62-Ubiquitin aggregate through a three-dimensional nonlinear ODE system. We will begin by introducing our new model for the growth of a p62-Ubiquitin aggregate, which was designed in collaboration with S. Martens and G. Zaffagnini (MFPL, University of Vienna). We will then present the three-dimensional nonlinear ODE system that has been derived from this model. Finally, we will show numerical simulations exhibiting the existence of three regimes, that we will study using some dynamical systems tools e.g. Blow-up (See [3]). This last analysis has been done in collaboration with P. Szmolyan (Technical University of Vienna).

This is a joint work with Marie Doumic (LJLL, Sorbonne University) and Christian Schmeiser (WPI, University of Vienna).

References

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