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## **Existence of solutions in a model of bone pattern formation**

We consider a relatively new model of bone structure formation during morphogenesis based upon a specific interaction between galectin proteins with their membrane receptors proposed in [1]. This model is governed, in general, by a system of parabolic and parabolic-hyperbolic equations. Upon some simplifications, we use a modification of the Rothe method to prove the existence of solutions. We also justify partially the approximation of the system by a set of parabolic equations.

## **References**

- [1] T. Glimm, R. Bhat, and S.A. Newman, *Modeling the morphodynamic galectin patterning network of the developing avian limb skeleton*, J. Theor. Biol. **346** (2014), 86–108.