

Expanding Baker Maps: A class of piecewise linear 2-D maps

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The main aim in [1], [2] and [3] is the study of certain two-dimensional maps that have been called *Expanding Baker Maps* (*EBMs* for short). These maps, as the name tries to explain, reproduce the method used by a baker to knead the dough since bakers bend and stretch a (quasi) two-dimensional domain over and over again until a final product is obtained: fairy cakes, bread rolls, country bread... In our terms, the final product is the attractor arising in the corresponding dynamics.

Although *EBMs* are, simply, piecewise linear maps defined in \mathbb{R}^2 , they usually display very intricate and interesting dynamics. In this talk the concept of *EBM* will be introduced. Moreover, we will show how these *EBMs* arise, the first results obtained for *EBMs* and certain approaches for future work in this field.

References

- [1] J. F. Alves, A. Pumariño and E. Vigil: Statistical stability for multidimensional piecewise expanding maps. (sometido para publicación) (2015)
- [2] A. Pumariño, J. A. Rodríguez, J. C. Tatjer and E. Vigil, *Chaotic dynamics for 2-d tent maps*. *Nonlinearity*, 28, 407–434 (2015).
- [3] E. Vigil, *Chaotic dynamics for 2-d tent maps*. (Doctoral Dissertation) University of Oviedo (2015).

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