

* Electronic Address: crocha@math.ist.utl.pt

¹ Instituto Superior Tecnico - Universidade de Lisboa

† Electronic Address: juliana.pimentel@ufabc.edu.br

² Universidade Federal ABC, Sao Paulo

A permutation characterizing unbounded attractors of slowly nondissipative systems

Carlos Rocha^{1*}, Juliana Pimentel^{2†}

We consider scalar reaction-diffusion equations generating global semiflows which exhibit blow-up in infinite time. The associated maximal attractor is unbounded as it contains all blow-up solutions. The introduction of objects interpreted as equilibria at infinity, allows for the description of these unbounded solutions as heteroclinic orbits. By extending the Sturm permutation characterization of heteroclinic orbits which holds in the dissipative case we obtain a description of the connecting orbit structure for the noncompact global attractors. We then characterize the permutations realizable by the slowly nondissipative problems considered here. Using this permutation characterization we also discuss orbit equivalence of the noncompact global attractors. This is based on a joint work with J. Pimentel.