

Solitons and Universes with Acceleration Driven by Bulk Particles

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Abstract : Considering a scenario where our universe is taken as a 3d domain wall embedded in a 5d dimensional Minkowski space-time, we explore the existence of a richer class of solitonic solutions and their consequences for accelerating universes driven by collisions of bulk particle excitations with the walls. In particular it is shown that some of these solutions should play a fundamental role at the beginning of the expansion process. We present some of these solutions in cosmological scenarios that can be applied to models that describe the inflationary period of the Universe.

Keywords : solitons, topological defects, branes, kinks, accelerating universes in brane scenarios

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