On global attractors for a nonlinear porous elastic system with fractional damping and memory term

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Abstract. In this paper we study the long-time dynamics of a porous elastic system with fractional damping mechanisms acting in the first wave equation, memory term, and subjected to nonlinear source terms. Using the recent quasi-stability theory, we prove the existence of a smooth finite-dimensional global attractor, which is characterized as the unstable manifold of the set of stationary solutions. Moreover, the existence of exponential attractors is shown.

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