

82. Zvi Artstein and Marshall Slemrod, **On singularly perturbed retarded functional differential equations**. J. Differential Equations 171 (2001), 88-109.

Abstract. The paper examines singularly perturbed retarded and delay differential equations where the delay is occurring on the fast scale, namely, it is proportional to the small parameter. The oscillatory phenomena and existence of periodic trajectories generated by the delay make it appealing to develop the theory along the lines which allow non-trivial dynamics as the limit of the fast flow. In particular, we find it useful to describe the limit of the solution funnel as a probability measure valued map generated by invariant measures of the fast flow. The convergence of an ordinary solution to the measure valued solution is the narrow convergence. The abstract theory is illustrated by concrete examples.

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