

122. Zvi Artstein, **Asymptotic stability of singularly perturbed differential equations**. J. Differential Equations 262 (2017), 1603-1616.

**Abstract.** Asymptotic stability is examined for singularly perturbed ordinary differential equations that may not possess a natural split into a fast and slow motions. Rather, the right hand side of the equation is comprised of a singularly perturbed component and a regular one. The limit dynamics consists then of Young measures, with values being invariant measures of the fast contribution, drifted by the the slow one. Relations between asymptotic stability of the perturbed system and the limit dynamics are examined, and a Lyapunov functions criterion, based on averaging, is established.

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