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Lyapunov functionals for delay equations with vector borne transmission

Recent work on modifying a Lyapunov function for an ODE to be a Lyapunov functional for a delay differential equation will be presented. In this talk we study the case where the delay comes from vector borne transmission, similar to the situation studied by Ken Cooke in 1979. We build on recent work, identifying conditions under which this "vector-delay" is harmless; it does not disrupt the Lyapunov calculation, and therefore does not affect the global asymptotic stability.