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Global Stability Problems in Heterogeneous Models for Vector-Borne Diseases

The graph-theoretic approach to the construction of global Lyapunov functions for large-scale dynamical systems, developed by Guo-Li-Shuai, was applied to establish global stability of equilibria in mathematical models of vector-borne diseases in heterogeneous populations. Multi-group and multi-city models for Dengue fever are used as examples.