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Modelling tuberculosis dynamics with heterogeneous strains

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Abstract. Computational models of infectious diseases play a vital role in the understanding of how nonlinear interactions between multiple drivers of transmission affect the spread of epidemics and how they might be controlled. The model discussed in this paper consists of a system of differential equations which describe the dynamics for the transmission of two heterogeneous strains of tuberculosis with the complexity of superinfection. Furthermore the basic reproduction number is computed using the next generation matrix method. In particular the stability of the disease free and endemic equilibria are systematically investigated.

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