

# A structured within-host dengue infection model

Peter Rashkov

Institute of Mathematics and Informatics–Bulg. Acad. Sci.

ul. G. Bonchev, bl. 8, Sofia 1113, Bulgaria

p.rashkov@math.bas.bg

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We propose and analyse a mathematical model of a within-host dengue infection with maturation structure of the virus. The basic reproduction ratio  $\mathcal{R}_0$  is computed as a function of the fraction of mature virus produced by the infected cells. Bifurcation analysis is used to compare the host's immune response in a primary and a secondary dengue infection.

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