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Jin Wang* (jin-wang02@utc.edu). *Basic reproduction numbers for a class of reaction-convection-diffusion epidemic models*. Preliminary report.

A numerical approach is presented to compute the basic reproduction numbers for a class of reaction-convection-diffusion epidemic models. Meanwhile, the numerical formulation provides useful insight into the characterization of those basic reproduction numbers. Using matrix analysis, we show that the basic reproduction numbers are the same for such PDE models and their associated ODE models in several important cases that include zero convection, uniform convection and diffusion, and partial convection and diffusion. (Received January 08, 2020)