

1116-VM-1890 **Christopher David Mitchell*** (mchris@uta.edu), 411 S. Nedderman Drive, 478 Pickard Hall, Arlington, TX 76019. *A comparison of methods to calculate the basic reproductive number for periodic systems.*

Many diseases exhibit seasonality, such as influenza and malaria, and so many models must incorporate this into their parameters. This leads to a non-autonomous model with periodic coefficients. The standard methods for calculating the basic reproductive number, or BRN, for autonomous models do not transfer to periodic systems. Here we review and compare two methods for calculating BRNs for periodic epidemic models, the time-average method and the linear operator method. We consider the simplest possible model where the two methods differ, and establish sufficient conditions for them to agree. (Received September 22, 2015)