TUBERCULOSIS MODEL WITH TIME DELAY

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ABSTRACT

Tuberculosis is the leading infectious disease cause of death worldwide. TB is caused by airborne bacteria that primarily affects the lungs, resulting in fever and coughing up blood. It is preventable and curable through medication. TB bacteria can be easily transmitted through the air from one person to another. We formulate TB model with time delay. We prove analytically the existence and uniqueness of positive steady state. We look for a critical value of delay, after which the steady state loses its stability. Finally, we present the numerical simulations illustrating our analytical results.

This is joint work with Cristiana J. Silva and Delfim F. M. Torres.

REFERENCES

[1] A. Bartşomiejczyk, C. J. Silva, and D. F. M. Torres: *Tuberculosis model with time delay*, in preparation.