

INEQUALITIES AND EXPONENTIAL DECAY OF CERTAIN  
DIFFERENTIAL EQUATIONS OF FIRST ORDER IN TIME VARYING  
DELAY

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### Abstract

In this paper, we give sufficient conditions to guarantee exponential decay of solutions to zero of the time varying delay differential equation of first order. By using the Lyapunov-Krasovskii functional approach, we establish new results on the exponential decay of solutions, which include and improve some related results in the literature.

**Keywords:** Exponential Stability, Instability, Lyapunov Functional, Time delay.

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