

## **ON THE STABILITY OF A HOST – DELAYED COMMENSAL SPECIES PAIR WITH LIMITED RESOURCES**

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### **Abstract**

In this paper a mathematical model of commensalism between two species ( $S_1$  &  $S_2$ ) with limited resources with delayed commensal is investigated. The commensal species ( $S_1$ ), in spite of the limitation of its natural resources flourishes drawing strength from the host species ( $S_2$ ). This model is characterized by a pair of first order non-linear coupled differential equations. All the four equilibrium points of the model are identified and the criteria for the stability are discussed.