1056-34-448   **Elif Demirci*** (`edemirci@science.ankara.edu.tr`), Ankara University Department of Mathematics, Besevler, Ankara, 06100, and **Nuri Ozalp**. *On Stability of Solutions of Fractional Order SEIR Epidemic Model with Vertical Transmission.* Preliminary report.

Fractional order differential equations are related to systems with memory effect which is important in most of the biological systems. In this work, a fractional order SEIR epidemic model with vertical transmission is considered. Existence, uniqueness and positivity of solutions are given. The stability of equilibrium points is studied. An example is given where the equilibrium point is nonstable in integer order system but locally asymptotically stable in fractional order counterpart. (Received September 10, 2009)