1116-VM-25   **Ogugua N Onyejekwe*** (oguguao@yahoo.com), 171 Cypress Brook Circle, APT#1315, Melbourne, FL 32901. *The application of Homotopy Analysis Method for the solution of time-fractional diffusion equation with a moving boundary.* Preliminary report.

It is difficult to obtain exact solutions to most moving boundary problems. In this paper we employ the use of Homotopy Analysis Method (HAM) to solve a time-fractional diffusion equation with a moving boundary condition. The convergence of the series solution obtained by HAM is shown by the proof of a theorem. The advantages to using HAM is shown through the solution of an example. (Received June 01, 2015)