Meeting: 1004, Bowling Green, Kentucky, SS 12A, Special Session on Partial Differential Equations and Their Applications

1004-35-67 **W. Y. Chan*** (wchan@semo.edu), Department of Mathematics MS 6700, Southeast Missouri State University, Cape Girardeau, MO 63701. *Results of Blow-up of Solutions of Degenerate Parabolic Problems.*

Suppose that q is a non-negative real number and T is a positive real number, we report the results of blow-up of solutions of the following degenerate parabolic problems

$$x^q u_t = u_{xx} + F(u) \text{ in } (0,1) \times (0,T),$$

$$u(x,0) = u_0(x) \text{ for } x \in [0,1],\ u(0,t) = 0 = u(1,t) \text{ for } t \in (0,T),$$

where $F(u)$ and $u_0(x)$ are given non-negative functions. (Received January 15, 2005)