

Meeting: 1002, Pittsburgh, Pennsylvania, SS 11A, Special Session on Mathematical Finance

1002-91-224 **Chris Harris, Sam Howison and Ronnie Sircar*** (sircar@princeton.edu), ORFE
Department, E-Quad, Princeton University, Princeton, NJ 08544. *Games with Exhaustible
Resources.*

We discuss a continuous time duopoly problem of Cournot competition between producers of an exhaustible resource such as oil. The value functions of this non-zero sum differential game are characterized by a nonlinear system of differential equations. We analyze these using perturbation and numerical methods and attempt to draw some economic conclusions on the effects of exhaustibility. (Received September 14, 2004)