

1077-35-305

**Eunkyung Ko\*** ([ek94@msstate.edu](mailto:ek94@msstate.edu)), 319 N.Jackson st. 1A, Starkville, MS 39759. *Analysis of classes of elliptic equations with nonlinear boundary conditions arising in combustion theory.*

We study positive solutions to classes of semilinear elliptic equations with nonlinear boundary conditions arising in combustion theory. We discuss existence, multiplicity and uniqueness results when a parameter in our model varies. We prove existence and multiplicity results by the method of sub-super solutions, and uniqueness results by establishing apriori estimates.

(Received August 19, 2011)