

Jeffrey WEBB

University of Glasgow

***Title:** Positive solutions of nonlocal boundary value problems with derivative dependent nonlinearity.*

***Abstract:** We study the existence of classical C^2 positive solutions of second order nonlinear boundary value problems for ODEs with derivative dependent nonlinearity, and in particular existence of multiple positive solutions. We allow the nonlinearity to grow quadratically with respect to derivatives. The method is to apply fixed point theory (closely related to degree theory). An a priori bound for derivatives is found using a recently obtained Gronwall type inequality. Examples illustrate some of the results.*
