

# A NOTE ON UNSTEADY INHOMOGENEOUS EXTENSIONS OF A CLASS OF NEO-HOOKEAN ELASTIC SOLIDS

By K.R. RAJAGOPAL\*

Department of Mechanical Engineering, Texas A&M University, College Station,  
Texas 77843

[Received 24 January 2002. Read 7 October 2002. Published November 2004.]

## ABSTRACT

In this note we determine explicit new exact solutions for unsteady inhomogeneous motions of a neo-Hookean solid due to the application of boundary traction that engenders a displacement along a coordinate direction that is proportional to the coordinate. The problem is the counterpart of a problem in fluid mechanics concerning the boundary layer flow due to a flexible boundary being stretched in such a manner that the velocity in a coordinate direction is proportional to its coordinate.