1106-74-712   **Kun Gou*** (`kgou@msu.edu`), Michigan State University, Department of Mechanical Engineering, East Lansing, MI 48824, and **Thomas J Pence**, Michigan State University, Department of Mechanical Engineering, East Lansing, MI 48824. *Analysis of several compressible versions of the incompressible neo-Hookean material.*

We consider three different compressible versions of the conventional incompressible neo-Hookean material model. The different versions are not new and have been used in various model studies. They each give neo-Hookean behavior in an appropriate incompressible limit. The three versions each show some basic differences with respect to each other as regards the qualitative nature of the approach to the neo-Hookean limit. The purpose of this study is to exhibit these differences. (Received September 05, 2014)