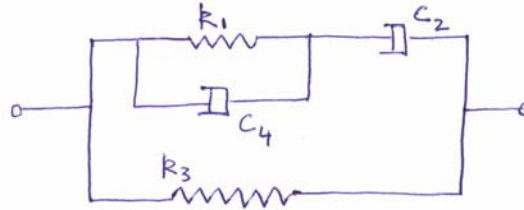


1. Obtain the constitutive law for the viscoelastic model shown. Then use the result to obtain the creep response (i.e.,  $\varepsilon[t]$  due to step input  $\sigma[t] = \sigma_0 u[t]$ ). What is the instantaneous creep response (i.e.,  $\varepsilon[0^+]$ ).



2. Consider the unsymmetrical pure bending of a prismatic done in class. Find the solution for the displacements  $u[x, y, z]$ ,  $v[x, y, z]$ ,  $w[x, y, z]$ . (Note: the method was outlined in class. It involves usage of the stress solution, strain displacement equations, constitutive law, and imposition of the zero rigid-body-displacement condition).
3. Detail the derivation of the (general) equation presented in class for the shear center of a solid cross-section beam.