

m6760 Continuum mechanics. Fall 2014

HW 2

September 14, 2014

1. Problems from the TME (Tadmor, Miller, Elliott) book: 3.7, 3.9, 3.12.
2. Derive the 3d compatibility conditions for small strains, using Fourier Transform method. (It is enough to obtain one of the conditions in one of the two groups)
3. Find Euler-Lagrange equation for the energy

$$\Pi = \min_{w(x)} \int_{\Omega} (\rho(x)(\nabla w)^2 + \beta(x)w^2) dx$$

where Ω is a bounded domain in R_3 , $w(x)$ is a minimizer. $\rho(x) > 0$ and $\beta(x)$ are two given continuous functions.