Boundary Element Method for an isolated shear band

The present file is a general boundary element software suitable to solve shear band problems in incompressible incremental non-linear elasticity, with time-harmonic external loads of prescribed circular frequency, with reference to the paper [1]. The software evaluates the longitudinal displacement jump along the surface of an isolated shear band into an infinite material. The incident field is represented by a transversal shear wave.

To run the file, define into the "Input parameters" section:

- ll: the totale length of the shear band
- e: the number of discretization of the BEM
- m: the factor for the evaluation of the wavelength
- μ: the shear moduli parallel to the horizontal principal axes
- NN: the hardening exponent of the J2- deformation theory of plasticity
- kk: the prestress of the material
- θ: the inclination of the shear band
- αw: the direction of propagation of the incident wave
- T: a paremetr for the evaluation of the parameter η ($\eta=p/\mu$ in the paper [1])

References

[1] - Giarola, D., Capuani, D., Bigoni, D. (2017) The dynamics of a shear band. J. Mech. Phys. Solids 112, 472-490.