 CMES, vol.97, no.6, pp.535-544, 2014

Erratum to: "Finite Element Analysis of Discrete Circular Dislocations" [CMES, vol. 60, no. 2, pp. 181-198, 2010]

K.P. Baxevanakis[1] **and A.E. Giannakopoulos**[2]

The authors wish to apologize for any inconvenience caused due to the fact that no figures were published in the original article. Please find in the following pages the omitted graphs. We note that in the original article, Figs. 7a and 7b are erroneously referenced as 6a and 6b.

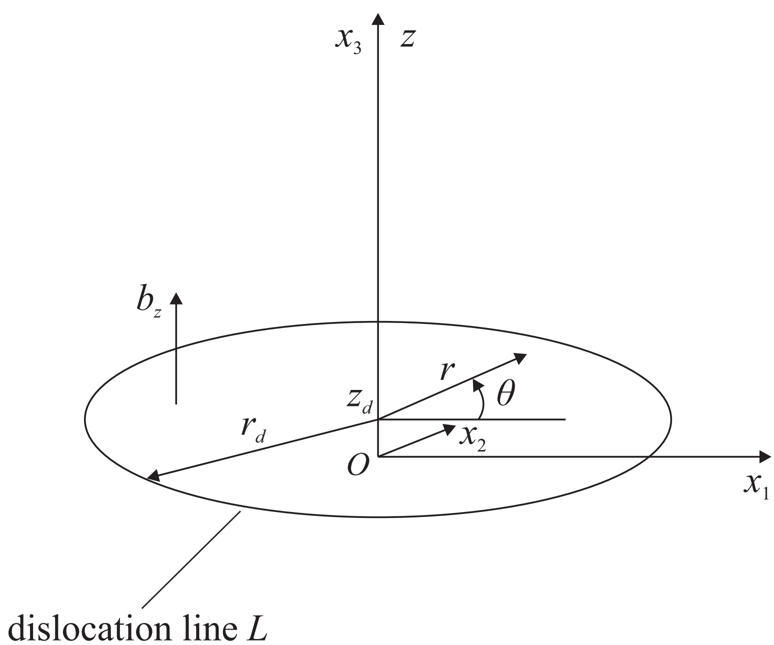

Figure 1: The geometry of a circular dislocation loop.

[1] Mechanics Division, National Technical University of Athens, Zographou, GR-15773, Greece. e-mail: kobaksev@mail.ntua.gr

[2] Laboratory of Strength of Materials and Micromechanics, University of Thessaly, Volos GR-38334, Greece.

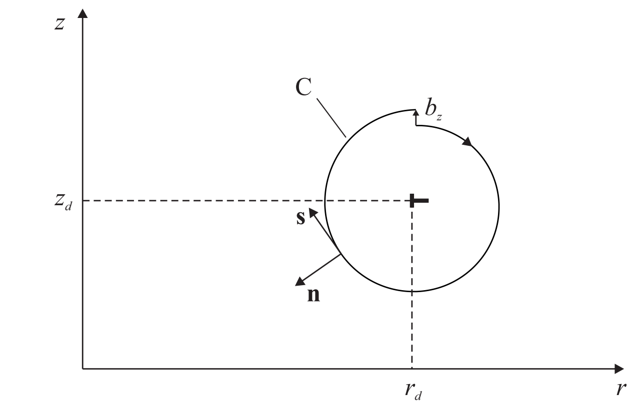

Figure 2: Axisymmetric Volterra type dislocation. The position of the dislocation line is (r_d, z_d).

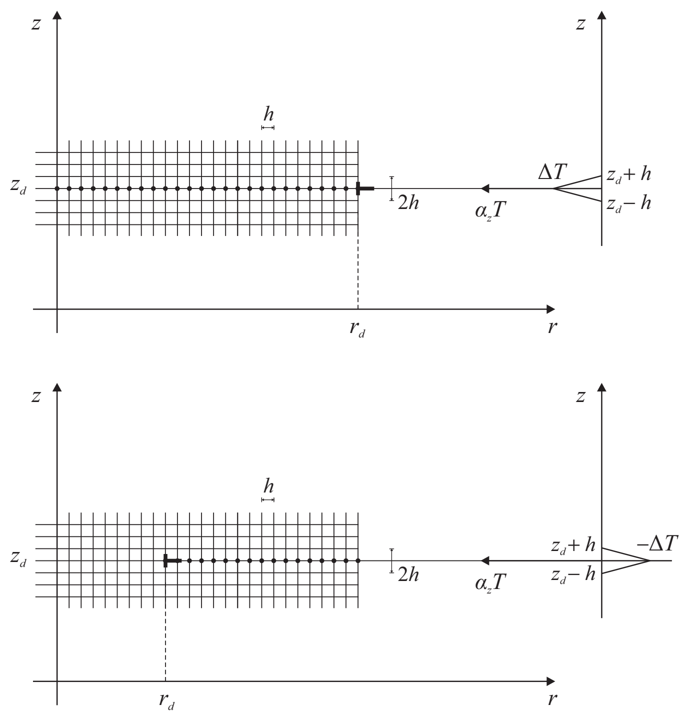

Figure 3: The implementation of the thermal analogue to finite elements.

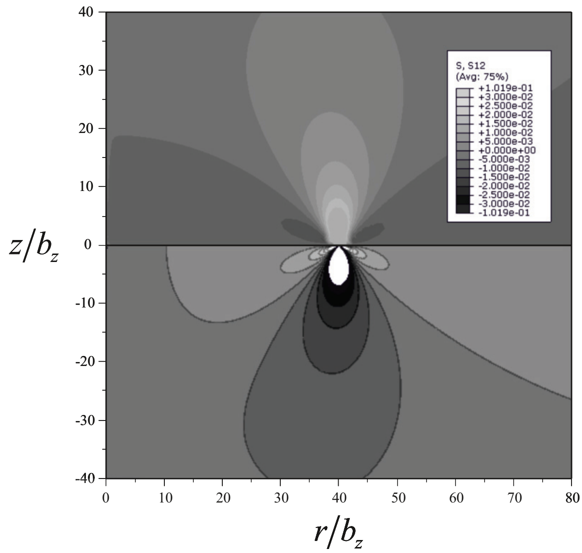

Figure 4a: The normalized stress σ_{rz}/G for W. On the upper part are the finite element results and on the lower the theoretical solution. The isocontours range is $(-0.03, 0.03)$.

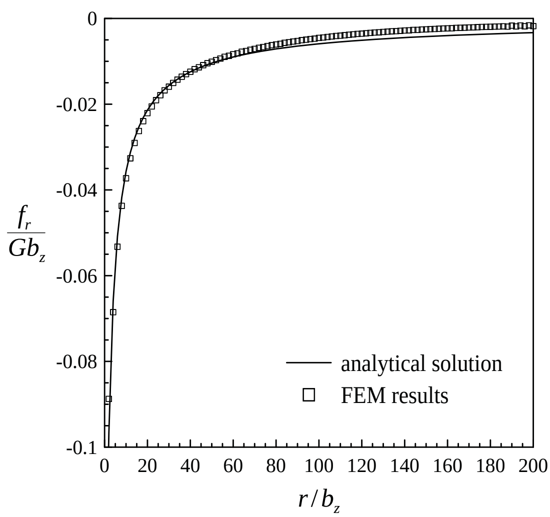

Figure 4b: The normalized dislocation loop self-force per unit length f_r/Gb_z analytical solution and numerical results for W.

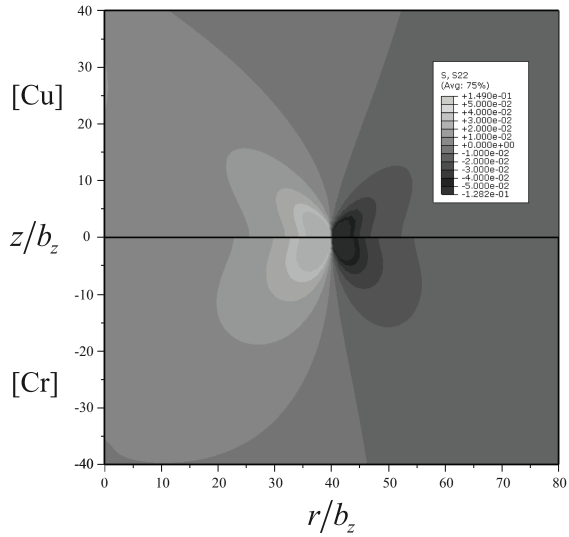

Figure 5a: The normalized stress σ_{zz}/G for Cu and Cr. On the upper part are the finite element results for Cu and on the lower for Cr. The isocontours range is $(-0.05, 0.05)$.

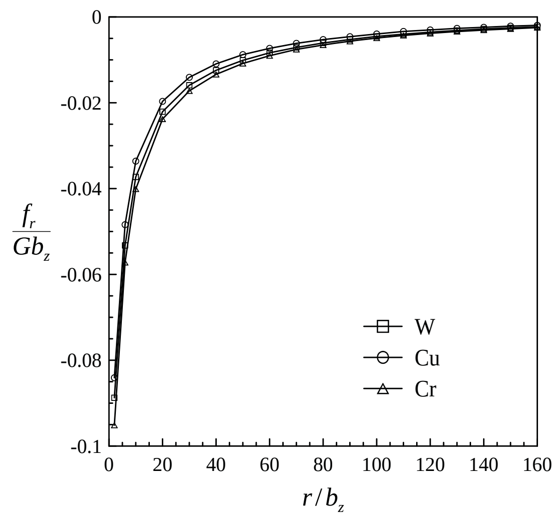

Figure 5b: The normalized dislocation loop self-force per unit length f_r/Gb_z numerical results for W (isotropic), Cu and Cr (anisotropic).

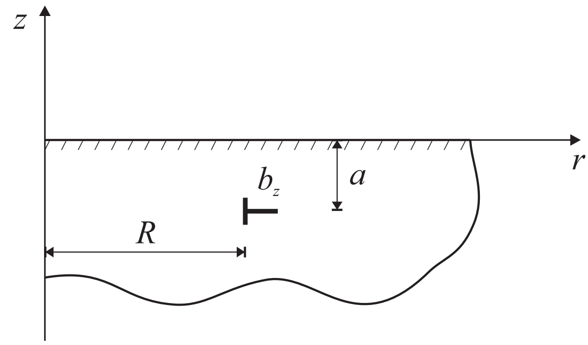

Figure 6: The geometry of a circular dislocation loop near a free surface.

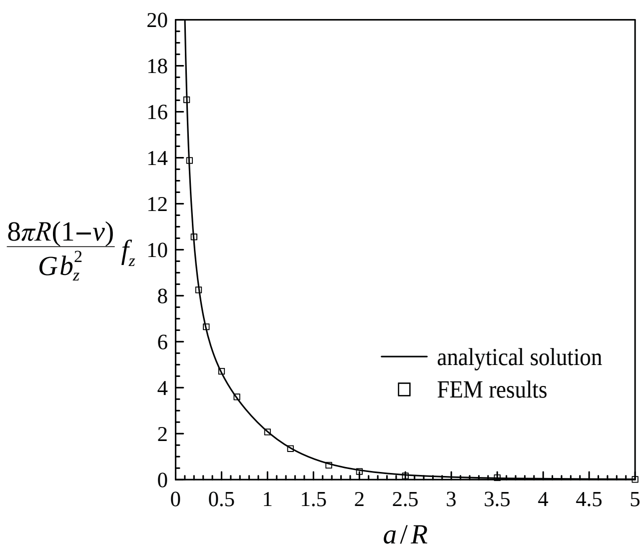

Figure 7a: The normalized force per unit length analytical solution and numerical results for W.

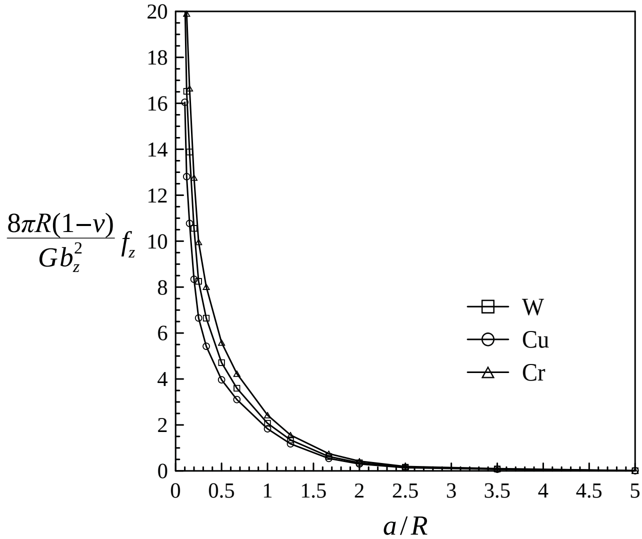

Figure 7b: The normalized force per unit length numerical results for W, Cu and Cr.

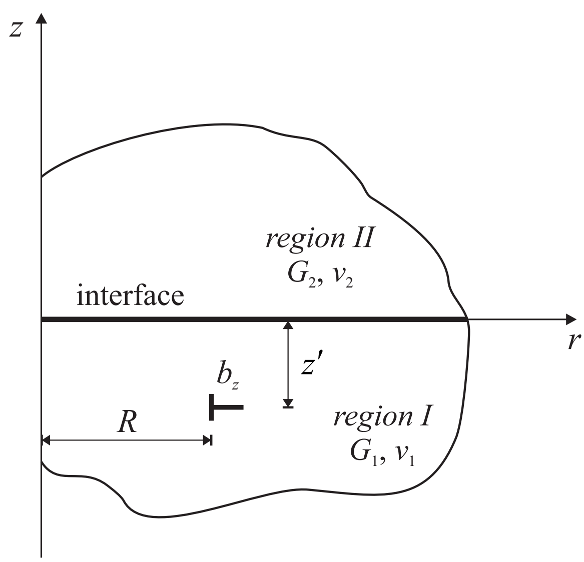

Figure 8: The geometry of a circular dislocation loop in a two phase material.

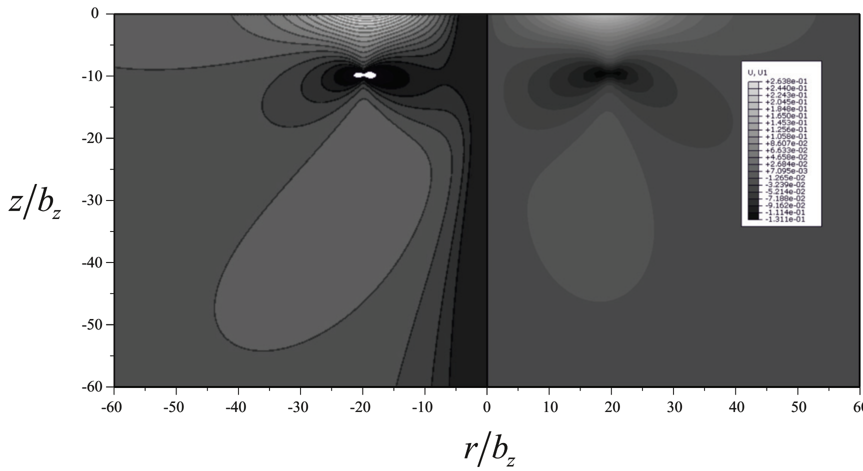

Figure 9a: The normalized displacement u_r/b_z for a dislocation loop near a free surface in Cu. On the left part is the analytical solution and on the right the finite element results. The isocontours range is $(-0.143, 0.302)$.

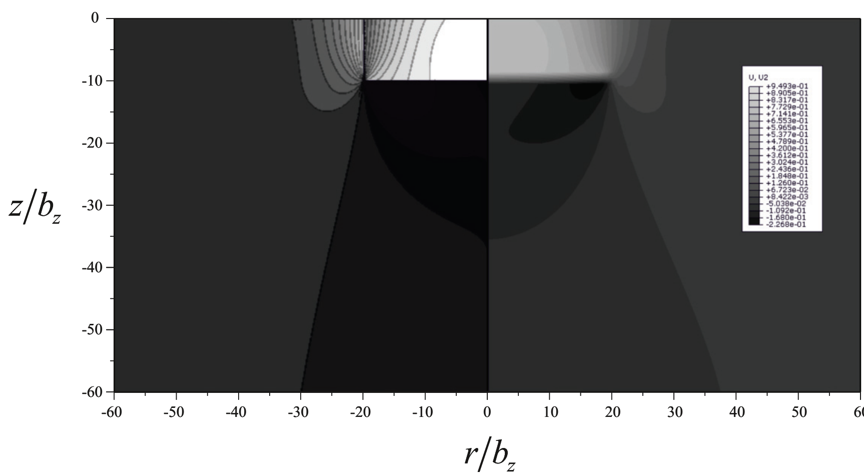

Figure 9b: The normalized displacement u_z/b_z for a dislocation loop near a free surface in Cu. On the left part is the analytical solution and on the right the finite element results. The isocontours range is $(-0.225, 0.943)$.

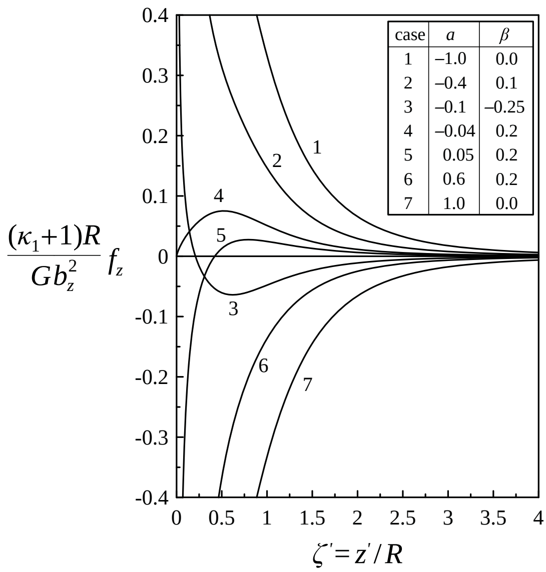

Figure 10a: The normalized force per unit length analytical solution.

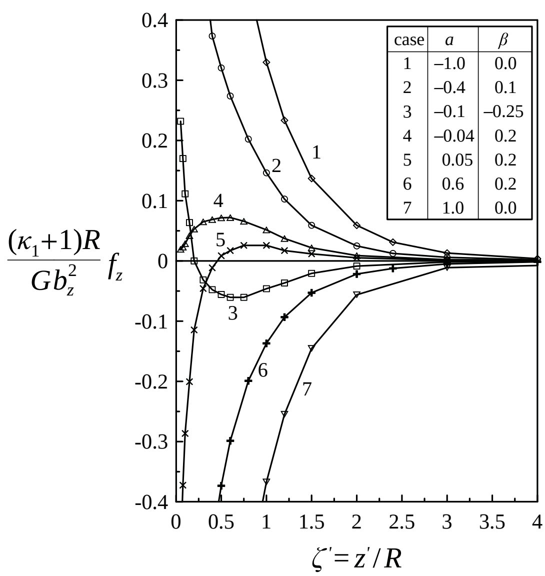

Figure 10b: The normalized force per unit length numerical results.

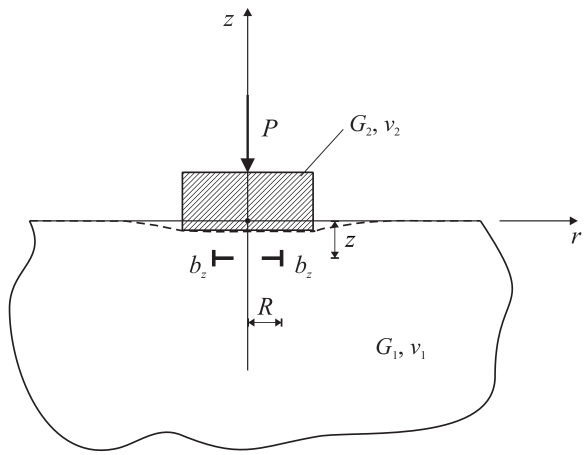

Figure 11: Indentation of a medium that contains a dislocation loop.

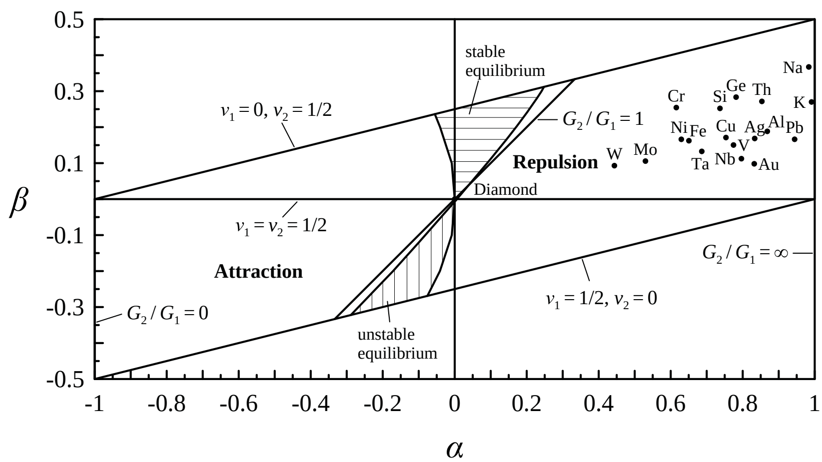

Figure 12a: Classification of materials behavior in the $\alpha - \beta$ plane for Diamond indenter.

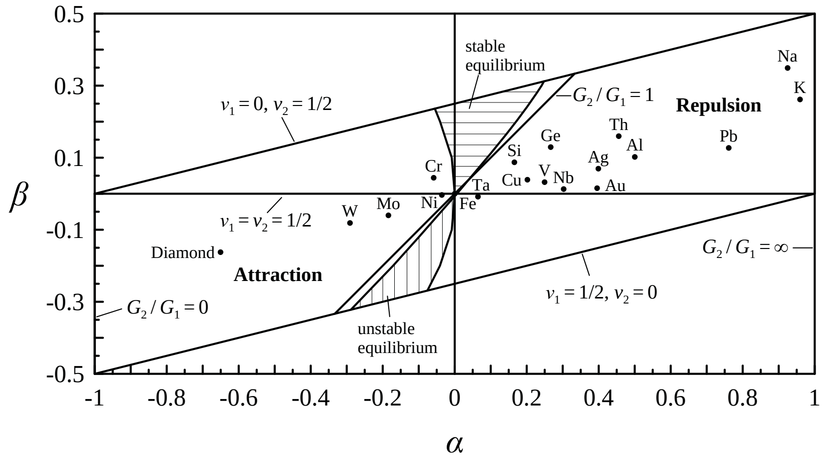

Figure 12b: Classification of materials behavior in the $\alpha - \beta$ plane for steel (Fe) indenter.

References

Baxevanakis, K.P.; Giannakopoulos, A.E. (2010): Finite Element Analysis of Discrete Circular Dislocations. *CMES: Computer Modeling in Engineering & Sciences*, vol. 60, no. 2, pp. 181-198.