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RESPONSE TO DISCUSSION "Fracture Mechanics Analysis of Cracked 2-D Anisotropic Media with a New Formulation of the Boundary Element Method" by E. Pan and B. Amadei*

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We would like to thank Drs. Aliabadi and Sollero for their interest in our paper and for their constructive remarks.

Reference [1] in their discussion was published in late 1995 which is about the time when our paper was in press. Had we known of this reference at the time we would have referenced it in our paper.

Directly related to the DBEM for anisotropic media is the the analytical evaluation of two singular integrals involved in the boundary integral equations. These singular integrals can be analytically carried out only under certain assumptions, such as the piece-wise flat element assumption. This can be clearly observed in (3) of Aliabadi and Sollero's discussion where $[x_1'+\mu_1 x_2']$ must be constant over the element.

The advantages of using relative crack displacements (or DDM [1]) as unknowns in the dual-type BEM for the modeling of fracture mechanics problems can be found in the literature, in particular, in the work by Sur and Altiero [2], Chen and Chen [3], Chang and Mear [4], and Ammons and Vable [5] where they used the DDM in their dual-type BEM for the fracture mechanics analysis in isotropic media. More recently, the authors' dual-type BEM was applied to the determination of fracture toughness and to the simulation of fracture propagation in anisotropic media [6]. Based on this new dual-type BEM, an accurate, efficient and versatile BEM formulation has been developed for the modeling of general fracture problems in a 2-D anisotropic domain [7].

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