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Author's closure

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The authors would like to thank Dr. Melkumyan very much for the comments and discussion on our paper (Ing and Wang, 2004a). Two errors were detected in our numerical calculation:

1. The term $1 - k_e^2$ in the denominator of Eq. (66) was missed in our numerical calculation. The numerical results for $t > b_{bg}h$ in Fig. 6 will become correct if it is divided by $1 - k_e^2$.
2. As λ approaches the branch cuts of $Q_-(\lambda)$, numerical evaluation of the function $Q_-(\lambda)$ should be replaced by $Q(\lambda)/Q_+(\lambda)$, where

$$Q(\lambda) = Q_+(\lambda)Q_-(\lambda) = \frac{-\alpha(\lambda)[\alpha(\lambda) - k_e^2\beta(\lambda)]}{(1 - k_e^2)(\lambda^2 - b_{bg}^2)} = \frac{(1 + k_e^2)\alpha(\lambda)}{\alpha(\lambda) + k_e^2\beta(\lambda)}.$$

Therefore, the values of the dynamic stress intensity factor, the dynamic electric displacement intensity factor and the dynamic energy release rate are not zero for $t < bh$. We agree the numerical results calculated by Dr. Melkumyan.

Although Dr. Melkumyan proposed alternative solution forms of the dynamic stress intensity factor for $0 < t < bh$ and $bh < t < b_{bg}h$, the procedure and the analytical results presented in our paper remain valid.

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With the aid of $Q_-(\tau/h) = Q(\tau/h)/Q_+(\tau/h)$, one can also obtain the correct numerical results by directly integrating Eqs. (61), (62) and (73) of our paper for $t < b_{bg}h$.

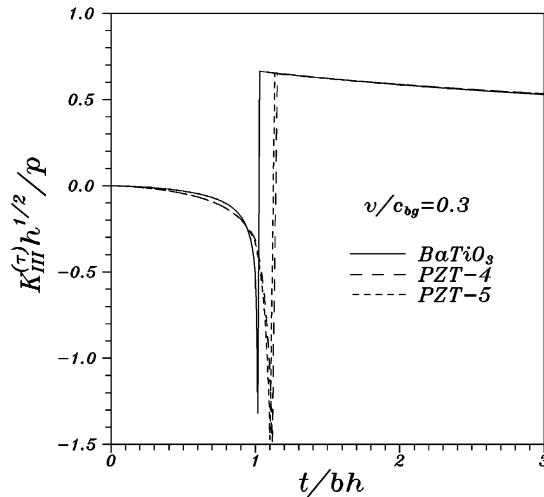


Fig. 1. Normalized dynamic stress intensity factors versus normalized time for various piezoelectric materials.

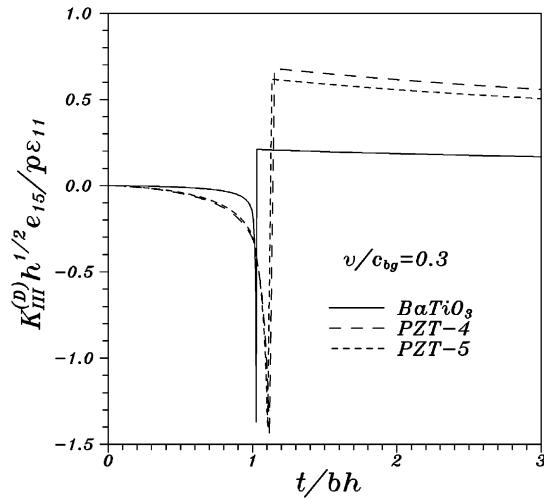


Fig. 2. Normalized dynamic electric displacement intensity factors versus normalized time for various piezoelectric materials.

A similar numerical result was also used in Figs. 2–7 of our another paper (Ing and Wang, 2004b) for the time period of a stationary crack. We correct these numerical calculations for $t < bh$ in the following plots (Figs. 1–6).

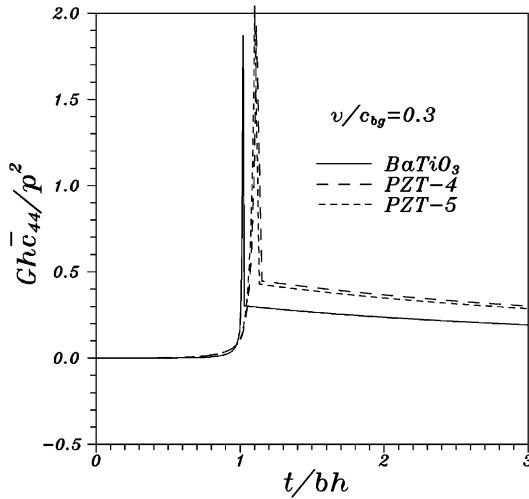


Fig. 3. Normalized dynamic energy release rates normalized time for various piezoelectric materials.

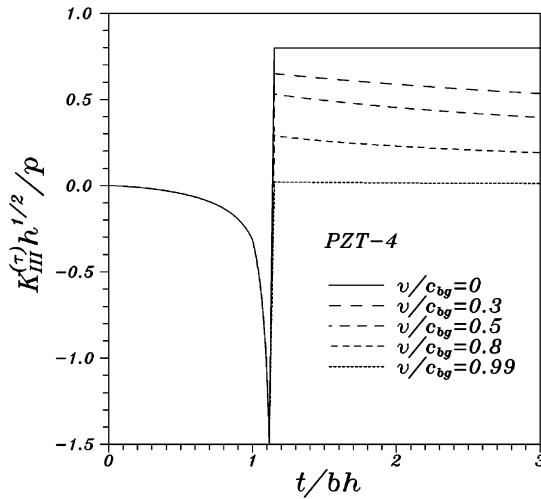


Fig. 4. Normalized dynamic stress intensity factors versus normalized time for different values of crack speed v .

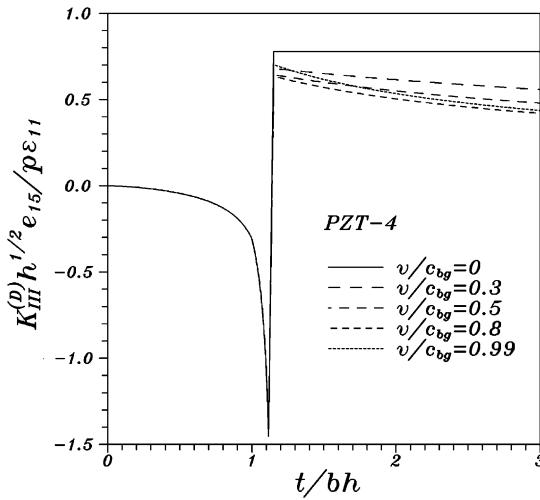


Fig. 5. Normalized dynamic electric displacement intensity factors versus normalized time for different values of crack speed v .

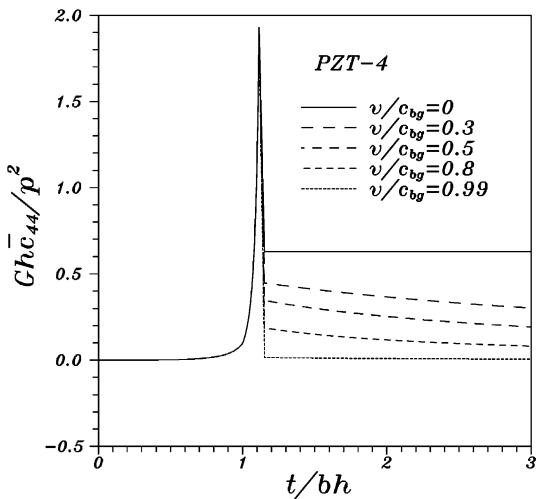


Fig. 6. Normalized dynamic energy release rates normalized time for different values of crack speed v .

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