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Response to "Comment on 'The elliptical Hertzian contact of transversely isotropic magnetoelectroelastic bodies'"

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We do appreciate Dr. Fabrikant comments about our paper (Hou et al., 2003). For solving this question, I agree with Dr. Fabrikant that the first step is to re-check the formulae of Hanson and Puja (1997) and re-calculate the numerical results. In addition, information from Figs. 4 and 5 in Hou et al. (2003) show that there may be some other reasons such as the different properties of purely elastic, piezoelectric and magnetoelectroelastic media resulting to these strange field distribution.

For example, the solutions of mechanical field of purely elastic, piezoelectric and magnetoelectroelastic media are in the same function form (Hanson and Puja, 1997; Ding et al., 1999; Hou et al., 2003), but the piezoelectric and magnetoelectroelastic curve for ${}^{n}\tau_1$ in Fig. 4 goes down and then makes a sharp angle and goes almost vertically up, while the corresponding curve for purely elastic media show normal shape.

See Eqs. (12) and (53) in Hou et al. (2003), although the solutions of ${}^{n}\Phi$ and ${}^{n}\Psi$, ${}^{n}D_z$ and ${}^{n}B_z$ in magnetoelectroelastic media are in the same function form, respectively, the corresponding curves for electric components ${}^{n}\Phi$ and ${}^{n}D_z$ in Fig. 5 show normal shape, while the curves for magnetic components ${}^{n}\Psi$ and ${}^{n}B_z$ make inexplicable waves.

The research in above two aspects will be taken in the following works. This research is supported by National Natural Science Foundation of China and Yu-Ying Foundation of Hunan University.

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