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**Interaction of counter-propagating acoustic waves in resonant rods composed of materials with hysteretic quadratic nonlinearity**

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An ordinary integro-differential equation for the profile of the acoustic wave in a resonant rod, composed of a material with hysteretic quadratic nonlinearity, is derived. It explicitly takes into account the interaction of the counter-propagating acoustic waves.

*The complete document was not available at the publication time. It has been replaced by the submitted abstract.*