### Title
FEA for damping of structures having elastic bodies, viscoelastic bodies, porous media and gas

### Journal

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### Abstract
A numerical method is proposed to calculate damping properties for soundproof structures involving solid bodies, porous media and air in two-dimensional regions. Both effective density and bulk modulus have complex quantities to represent damped sound fields in the porous media. Particle displacements in the media are discretized using finite element method. Moreover, it is found that damping can be coupled in the mixed structures between solid bodies, porous media and air.