

# Piezotyres

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## Abstract

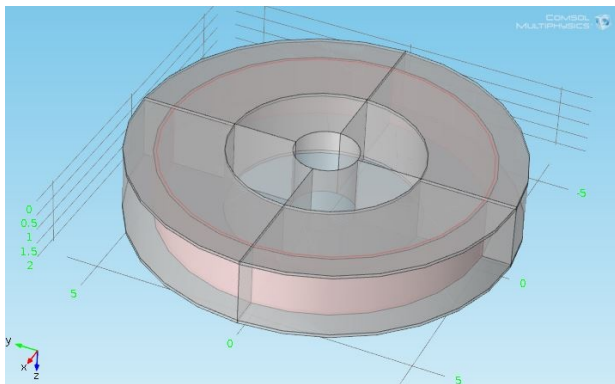
Access to electricity has become a major problem. In the process of solving this problem we should consider even a small source of electricity. Piezotyres are made to produce electricity from vehicle tyres. For this we have used a piezoelectric property, one of the natural wonder. COMSOL Multiphysics® was used to design and simulate it virtually. We have used different materials in the software for designing. We successfully generated electricity from vehicle tyres.

We have changed different materials and shapes in simulation. By using piezotyres we can produce electricity in vehicles on the go. The main application of this product is electric cars. Our tyre design is shown in Figure 1.

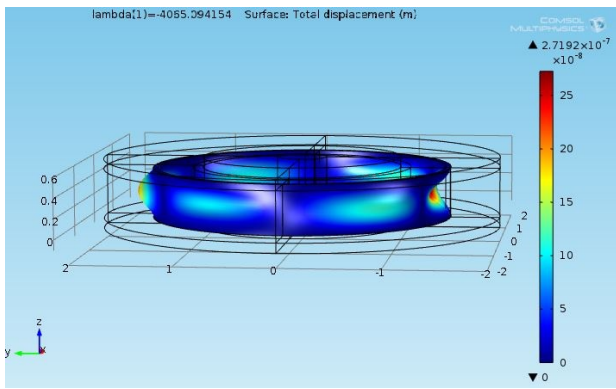
The deformation of the piezoelectric material layer inside the tyre is shown in Figure 2.

The electric potential generated in piezoelectric material is shown in Figure 3.

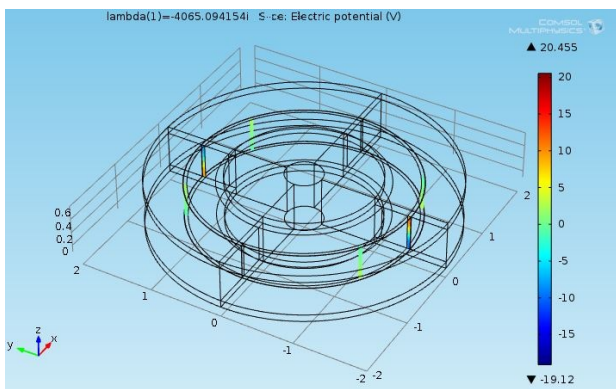
## Figures used in the abstract



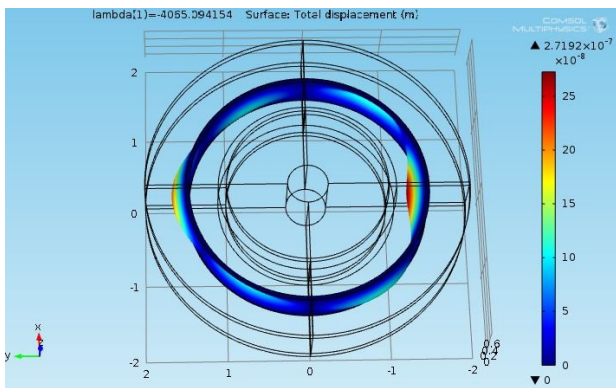
**Figure 1:** piezotyre design



**Figure 2:** Deformation obtained in piezoelectric layer



**Figure 3:** potential generated



**Figure 4:** Deformation obtained in piezoelectric layer upper view