

ENERGY HARVESTING AND CONTROL OF VEHICLE TIRE PRESSURE USING TRANSDUCERS

**K. PRANAY KUMAR REDDY, G. JITHENDRA NAIDU
AND S. SIVA PRASAD**

Department of Electrical Engineering,
J.B Institute of Engineering and Technology (Autonomous), Hyderabad, India.

Abstract

The scarcity for energy fuels in this modern world led us to run for the search of alternate ways for power generation in order to meet the load demand. The drastic revolution in industrial sector results in development of modern technology. The availability of industrial goods at cheap price and need for privacy created a huge demand for motor vehicles. Now every human being maintains his own vehicle for his personnel use. The pressure which is present inside the vehicle tires provides a great source for energy generation. But this energy is going as waste continuously. In order to retain some of this waste energy to useful electric power pvdf materials are used which acts as energy converting devices. In this paper a new method is proposed and investigated the performance that can make use of these pvdf materials placed inside vehicle tires for power generation. These materials which exhibit piezoelectric effect utilize pressure inside the vehicle tire for energy generation. Also the pressure of the tire can be controlled by using these pvdf materials which can exhibit inverse piezoelectric effect. The main advantage of the proposed method is that both energy generation and pressure control of tire can be done through single method with some changes in switchable connections.

Keywords : PvdF materials, Power generating strategy, Pressure control strategy, Thyristor control, Switchable connections.

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