

ABSTRACTS

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# Testing LAD1 of harvesting electric roads

(pages 25-29)

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Keywords: piezoelectric effect, energy harvesting, testing PZT.

**Abstract:** Alternative power sources for roadway accessories have been brought to light through energy harvesting technologies. Several types of nanogenerators can harvest energy from rotating automobile tires by using the piezoelectric effect to generate electricity from these roads. As the wheel is pressed against the piezoeramic disks, energy is harvested by embedding them within a protective package. In this paper, we demonstrate the testing of several types of electric vehicles and how they are tested for electric performance and determine the output voltage and current.

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# Industrial robotics as an important part of modern production automation

(pages 31-36)

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Keywords: industrial robotics, manufacturing automation, robot, robotics, Industry 4.0.

**Abstract:** This paper focuses on industrial robotics, highlighting it as an important part of modern manufacturing automation. First, the paper focuses on manufacturing automation more generally, highlighting its importance, pros and cons. This is followed by a description of fixed, programmable and flexible automation, with a link to industrial robotization. Then, the connection of robotization with other types of automation, i.e., forced and economically justified automation, is highlighted, followed by large and small automation.