World Academy of Science, Engineering and Technology
International Journal of Transport and Vehicle Engineering
Vol:19, No:01, 2025

The Effect of Technology on Advanced Automotive Electronics

Authors : Abanob Nady Wasef Moawed

Abstract : In more complicated systems, inclusive of automotive gearboxes, a rigorous remedy of the data is essential because there are several transferring elements (gears, bearings, shafts, and many others.), and in this way, there are numerous viable sources of mistakes and also noise. The fundamental goal of these elements are the detection of damage in car gearbox. The detection strategies used are the wavelet technique, the bispectrum, advanced filtering techniques (selective filtering) of vibrational alerts and mathematical morphology. Gearbox vibration assessments were achieved (gearboxes in proper circumstance and with defects) of a manufacturing line of a huge car assembler. The vibration indicators have acquired the use of five accelerometers in distinct positions of the sample. The effects acquired using the kurtosis, bispectrum, wavelet and mathematical morphology confirmed that it's far possible to identify the lifestyles of defects in automobile gearboxes.

Keywords : 3D-shaped electronics, electronic components, thermoforming, component positioningautomotive gearbox, mathematical morphology, wavelet, bispectrum
Conference Title : ICAAE 2025 : International Conference on Advanced Automotive Electronics
Conference Location : New York, United States
Conference Dates : January 30-31, 2025