

Assignment

1) Signal processing is a major activity. It's generally required to be able to extract the individual frequency components which are present in a signal, sometimes because the original signal generating the vibration contains many components (as is the case for periodic, random or transient types of excitation) and other times because it is required to eliminate spurious components of response, introduced by noise or non-linearities in the measuring system.

Signal processing condenses measurements to extract information about some distant state of matter. To an electrical engineer it is often restricted to digitization, sampling, filtering, & spectral estimation.

2) Expert system instrumentation

In an AI (artificial intelligence) an expert system is a computer system emulating the decision making ability of a human expert. Expert systems are designed to solve complex problems by reasoning through bodies of knowledge represented mainly as 'if - then' rules rather than through conventional procedural code.