

## UGC Approved (old) List of Journals

	and Image Processing (IJCIP)						
63165	Global Business and Management Research	UNIV	Social Science	Universal Publishers - Boca Raton, Florida, USA		19475667	United States
63170	International Journal of Human Resource Management and Research	UNIV	Social Science	inderscience	22496874		India
63172	Bioengineering	UNIV	Science	MDPI AG St. Alban-Anlage 66 4052 Basel Postfach, CH-4020 Basel Switzerland	23065354		Switzerland
63173	International Journal of Sustainable Strategic Management	UNIV	Multidisciplinary	Inderscience Publisher	17533600	17533619	United Kingdom
63176	International Journal of Technology Policy and Management	UNIV	Social Science	Inderscience Publisher	17424240	17424259	United Kingdom
63177	international journal of social science studies(IJSSS)	UNIV	Arts & Humanities	redfame publishing INC	23248033		Canada
63179	International Journal of Scientific Research and Reviews (IJSRR)	UNIV	Multidisciplinary	IJSRR	22790543		India
63181	Journal of Innovation and Knowledge	UNIV	Social Science	Elsevier	2444569 X		Spain
63191	International Journal of Social Sciences	UNIV	Social Science	INTERNATIONAL INSTITUTE OF SOCIAL AND ECONOMIC SCIENCES	1804980x		United Kingdom
63192	International Journal of Risk &	UNIV	Social Science	IGI Publishing	21609624		United



## Design Implementation and Analysis of non linear system based power quality using LabVIEW.

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### Abstract:

In the present scenario the increasing existence of nonlinear loads and the increasing number of distributed generation power systems in electrical grids change the characteristics of voltage and current waveforms, which differ from pure sinusoidal wave. Poor power qualities affect functioning of utilities, different industrial units, productions, customer services and other system performance and operating costs. Monitoring of power quality is essential to maintain proper functioning of utilities, customer services and equipment's. The target here is to design measuring systems and display the system parameters under distorted system conditions. Harmonics are measured and displayed using LabVIEW. The voltage and current are sensed using sensors for various loads, which are then interfaced with the PC using DAQ (Data Acquisition) card and displayed using LabVIEW. The Hardware implementation includes setting up of test systems such as diode bridge rectifier and thyristor-based converter with various loads.

**Key word:** DAQ, LabVIEW, Power qualities, Harmonics.

### Introduction

The aim of the power system has always been to supply electrical energy to customers. Earlier the consumers of electrical energy were mere acceptors. Interruptions and other voltage disturbances were part of the deal. But today electric power is viewed as a product with certain characteristics which can be measured, predicted, guaranteed, improved etc. Moreover, it has become an integral part of our life. Modern world is heavily dependent on the constant and reliably availability of electrical power supply. In the recent years, users of electric power have detected an increasing number of drawbacks caused by electric power quality variations. These variations already existed on the electrical system but only recently they are causing serious problems. This is due to the increased sensitivity of equipment's and devices used by customers. This end user equipment's are more interconnected in networks and industrial processes, that the impact of a problem with any piece of equipment is much more severe.

Now the quality of this power supply is becoming more important due to increasing sensitivity of the equipment's and devices used by the customers. Also, power quality of power systems affects all connected electrical and electronic equipment's and is a measure of deviations in voltage, current, frequency, temperature, force, and torque of particular supply systems and their components.

Sustainable Energy is the provision of energy such that it meets the needs of the future without compromising the ability of future generations to meet their own needs. It is required to have more efficient means of converting and utilizing these energies. This will depend on the quality of power supplied and the impact of end user equipment's on that power.

Power quality monitoring can help to identify the cause of power system disturbances and even help to identify problem conditions before they cause interruptions or disturbances. Hence to improve power quality with adequate solutions, it is necessary to know what kinds of disturbances occurred.



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