

1. Title:

Vibration control of piezo actuated smart structure with changing temperature environment

2. PI information:

Dr. L.R. Karlmarx, Associate professor, Mechatronics Department, Thiagarajar college of Engineering, Madurai.

3. Project Duration and cost:

Duration: Three years, Ref N: 41-589/2012(SR), Amount Sanctioned: 12.10 lakhs

4. Equipment purchased and usage:

Sl. No	Name	Usage
1.	SpeedGoat(RT workshop Machine)	Real time data acquisition system
2.	Piezo Actuation System	Exiting the piezo beam
3.	Piezo Sensor System	Acquiring the signal from the piezo with specified value
4.	Band pass filter	Elimination of unwanted signal during the operation
5.	Digital Storage Oscilloscope	To store and measure the piezo signal
6.	Matlab 2013 with RTW	To run the speedGoat real-time unit

5. Publications:

Journal

S. No	Title	Authors	Journal	Details
1	Comparison of Adaptive Algorithms for Vibration control of Piezoactuated Cantilever Beams	M.Kishore Vijayakumar,L.S wathi ,and L.R. KarlMarx	International Journal of Applied Engineering Research, © Research India Publications; http://www.ripublication.com/ijaer.htm	ISSN 0973-4562 Vol. 10 No.1 (2015) pp. 372-375
2	Gauss-Seidel Method for Vibration Control in Piezoactuated Cantilever Beams	M.Kishore Vijayakumar,L.S wathi ,and L.R. KarlMarx	International Journal of Applied Engineering Research, © Research India Publications; http://www.ripublication.com/ijaer.htm	ISSN 0973-4562 Vol. 10 No.2 (2015) pp. 1559-1562

3	Performance Improvement in Vibration control of Piezoactuated Cantilever Beams using Successive over relaxation method	M.Kishore Vijayakumar, and L.R. KarlMarx	International Journal of Applied Engineering Research, © Research India Publications; http://www.ripublication.com/ijaer.htm	ISSN 0973-4562,pp.1911 7-19120, Volume 10, Number 20 (2015) Special Issues
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Conference

S. No	Title	Authors	Conference	Details
1.	Vibration control of Piezoactuated Cantilever Beams using Adaptive filtering	L.Swathi ,and L.R. KarlMarx	INTERNATIONAL CONFERENCE On “INFORMATION, COMMUNICATION & EMBEDDED SYSTEMS”	21st & 22nd FEBRUARY, 2013.,IEEE sponsored conference, published in iee explorer

6. PhD/ ME produced along with titles:

ME Students:

Sl.no	Name of the Student	Title	year
1.	L.Swathi	Phase I: Adaptive filtering schemes to control the vibrations of piezo actuated smart cantilever beam Phase II: Vibration control of Piezo actuated cantilever beam using adaptive IIR filter.	2013
2.	M.Kishore Vijayakumar,	Phase I :Vibration control of smart structures using novel control algorithms Phase II: Gauss-Seidel Method for Vibration Control in Piezo actuated Cantilever Beams	2014
3.	Vishnupriya	Identification of central plant using Lagrangian inverse interpolation method	2015