



SDI Review Form 1.6

Journal Name:	<u>British Journal of Mathematics & Computer Science</u>
Manuscript Number:	Ms_BJMCS_20644
Title of the Manuscript:	A New Approach to Output Control of Smart Beams under Axial and Transverse Loads
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<u>Compulsory</u> REVISION comments	1. The title of Section 3 "Discrete Equations" should be replaced by "Modal Equations". 2. Dimensional specifications of the simulated beam should be provided in details. 3. Is this controlled system asymptotically stable? If not, why? 4. All control gains used for computer simulation needs to be added. 5. Actuating force from the piezoactuator to achieve the results shown in Figures 1-11 should be presented. 6. How to implement the proposed controller in practical environment? This point should be addressed in details. 7. This reviewer strongly suggests that the authors undertake experimental realization of the proposed work by making a simple beam structure. The experimental verification of the proposed new control scheme can assure the technical originality of this work.	1. Done, thanks. 2. This sentence is added: "The Si system has been adopted throughout this paper for all variables and parameters". 3. Asymptotic stability is normally considered for the fixed solutions. The considered equations are nonhomogeneous and have no fixed solutions. But homogeneous part of this system is asymptotically and moreover exponentially stable. 4. The critical eigenvalues of the controlled matrices are included instead. Quite large gain matrices do not present additional valuable information and are obtained by matlab 'place'- function . 5. These forces estimates are similar for all figures. Thus a short discussion is added to sec. 8. 6. Ideally, the implementation is straight-forward. In the same time this is a paper in control theory. 7. The authors are applied mathematicians and computational scientists. We are looking for a suitable collaboration with experimentalists to target this task. Thank you very much for a thoughtful review
<u>Minor</u> REVISION comments	1. The titles of x, y axis of all figures should be enlarged to clearly identify. 2. The augmentation of a beam structure showing the position of the actuator and sensor will be very helpful to understand the problem issue. Nomenclature is required to define or explain all variables.	
<u>Optional/General</u> comments		