



SDI Review Form 1.6

PART 1:

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	2013_BJMCS_5549
Title of the Manuscript:	Equilibria and nonlinear oscillations of an eccentric rotor elastically damped
Type of the Article	Research Paper

General guideline for Peer Review process is available in this link:

<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>

- This form has total 7 parts. Kindly note that you should use all the parts of this review form.



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PART 2: 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	The author studied a heavy, eccentric and elastically damped rotor considering both the static and dynamical point of view. The system, whose genesis is in the re-loading mechanism of an automatic watch and which we mathematized, behaves like a generalized physical pendulum with the addition of eccentricity and damping. The static analysis is performed settling the equilibria and defining their nature, whose effective computation can be done numerically. The motion analysis leads to a nonlinear differential initial-value problem whose integration, carried out by means of Jacobi elliptic functions, reveals that, starting from both zero initial conditions, only periodical motions, see formulae (4.8) or (4.13), are allowed and all confined inside a potential well. Closed form expressions of the period in each case have been obtained through complete elliptic integrals of first kind. In such a way a further and rather realistic item is added to the not rich family of 1-D non linear oscillators suitable of exact integration.	
<u>Minor</u> REVISION comments	This paper is very interesting. In my opinion, this manuscript can be published after some modifications : 1- The abstract and introduction are not written so good it need improvement . 2- The English need some improvements	ABSTRACT AND INTRODUCTION HAVE BEEN REVISED AND REWRITTEN COMPLETELY
<u>Optional/General</u> comments	The aide of the work is good .	THE ENGLISH HAS BEEN CAREFULLY AND DEEPLY REVISED