



SDI Review Form 1.6

PART 1:

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2013_BJAST_4698
Title of the Manuscript:	ENTROPY IN THE ANALYSIS OF GAIT COMPLEXITY: A STATE OF THE ART
Type of the Article	Review

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.



SDI Review Form 1.6

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	General comments This manuscript is aimed to review the role of entropy measures in assessing the complexity of human gait. However, its quality needs to be sufficiently improved. Specific comments Abstract: It seems that the abstract does not provide useful information about the contents of the manuscript. Line 4-5: The statement "Human gait is a non-linear complex process requiring appropriate mathematical measuring, one of which is entropy" seems to be assertive. Line 8: The statement "At present, three algorithms are used to study physiological signals" is incorrect. Line 4: "non-lineal" Introduction: Line 20: How the complex and irregular fluctuations in physiological signals, e.g. human gait data, are quantified in conventional statistical analysis methods?	Abstract: - Line 4-5. We believe it is explained in the text. - Line 8. This point has been changed in the text. - Line 4. This point has been changed in the text. Introduction: - Line 20. They are not, but some signals have this problem. For example, when heart rate



SDI Review Form 1.6

	Line 23-28: Cite the references that give the concept of “complexity”. Line 29-31: Why human gait can be considered as a nonlinear process? Line 32-36: What are the advantages and disadvantages of the conventional approach for characterizing human gait? Line 36-38: What features have been revealed by previous studies using nonlinear approaches? Can these features be associated with healthy or pathological conditions? Are there some problems that have not been addressed? Line 41-43: Why you chose entropy measures? There are errors in the following phrases or sentences. Line 20: “Physiological signs” Line 23: “There is not” Concept of Entropy. Algorithms for Estimating Entropy Line 48-49: Useless. Line 69-70: The statement “correct a set of errors to which the ApEn leads” is incorrect. Line 76: Give the definition of the vector $x_m(i)$. Line 82-93: The definition of SampEn(m,r) needs to be described more clearly. Line 95: Why the best value of m is 1 or 2? Line 101: What does the term “impaired systems” mean?	variability is assessed in the time domine. • Line 23-28. This reference is included in the text (1). • Line 29-31. We are citing to Goldberger et al and Stergiou et al. • Line 32-36. It is not an objective for this review • Line 36-38. We think it is explained in the text. • Line 41-43. Entropy measures are the most accurate for gait nonlinear analysis.
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	Line 103: Why an impaired system is more “regular” than a healthy system? Line 107-112: The algorithm of MSE should be described more clearly. Line 114-117: Is there any relationship between the scale and the power spectrum of the “new series”? Application to human Gait data Line 122-124: This sentence has some grammatical mistakes. What does it mean? Line 122-129: What kind of gait data to which Kurz and Stergiou applied the ApEn? What were the main results? How the results supported their hypothesis? Since this manuscript is aimed to review the role of the entropy measures in assessing the complexity of human gait, what does the study by Kurz and Stergiou imply? Line 130-138: What kind of gait data was used by Khandoker et al to evaluate gait variability? Line 133: “ApEn of elderly subjects”? Line 139-142: What kind of gait data was used by Moraiti et al to study gait variability? Is their conclusion consist with those of other studies? Line 143-147: What does this study imply? Line 148-151: It is hard to understand this paragraph. Line 172-175: It seems that the conclusion is obtained constrainedly.	
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<u>Minor</u> REVISION comments		• Line 20. NO VEO EL ERROR • Line 23. NO VEO EL ERROR Concept of Entropy. NO SE QUE PONER. ESO ES TAL CUAL NO? Application to human gait data Line 122-124. This point is changed in the text. Line 122-129. Authors used srtime interval time series. Line 120-138. Authors used srtime interval time series. Line 133. Line 139-142. Authors used angles Line 143-147. Line 148-151. Line 172-175.
<u>Optional/General</u> comments		