



SDI Review Form 1.6

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2014_BJAST_14961
Title of the Manuscript:	Discussion on using only one linear array to estimate the phase velocity of Rayleigh wave based on microtremor survey
Type of the 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:

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



SDI Review Form 1.6

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)
Compulsory REVISION comments	The paper presents the concept of using a linear array instead of a circular array to derive Rayleigh wave phase velocities from recorded Microtremor data. It is presented as modification to the SPAC method. However, the following comments need to be addressed: The authors only show the phase velocity versus frequency plots but not the velocity versus depth plots for either the theoretical or field examples. For practical applications the objective is to determine the shear-wave velocities. The paper will be useful if the authors show the resulting Vs profile for all their trials. Also, need to address how the azimuth dependence may or may not translate to errors in the Vs model. The paper does not go into any discussion of using more sensors and how that might influence the analysis. Will more sensors help or three all that is required? Does increasing spatial sampling affect the CCF ? Or has it no effect at all? Does the distance of the source from the array have an effect on CCF? The authors fail to mention or reference the other existing Rayleigh wave phase velocity measurement techniques that use a linear array like ReMi (Louie,	1. Thank you for suggesting the demonstration of Vs profile. However, I think there is no need to do this because (1) the process of obtaining Vs profile from dispersion curve is simple; (2) the key significance of the proposed method lies in the process of obtaining dispersion curve from the records in a line (by using GA). By observing the consistence of the estimated dispersion curve and the theoretical one, it is enough to confirm the availability of the proposed method. I think it is out of the scope of this article to discuss the error of Vs profile from the error of dispersion curve (3) In the future, we would focus more on the practical applications by doing more observations at different zones. After obtaining enough results, we would do a more comprehensive analysis about it. 2. Thank you for your good advice about more discussion about the sensor arrangement. Of course theoretically with more sensors, there will be better accuracy. I discussed little about this in my article because I planned to emphasize more on the basic availability of the proposed concept. That's why I just used the simple and rough form of the linear array (3 sensors and with different intervals). I would like to discuss



SDI Review Form 1.6

	2001). ReMi method is widely used and accepted method that using sensors deployed in a linear fashion. The authors must at least reference this in their paper. They should also illustrate how their method compares to this and also the differences.	more about them in another part of research of mine. I have added more description about this in my article to make it clear to the readers. I hope you can understand this. 3. The CCF theory is based on the assumption that the sources are remote enough. Hence, if there are close sources, it will not produce perfect plane surface wave, which is the base of the definition of CCF (line 75-96). It will of course cause the systematic bias to the result. 4. Thank you for your advice about ReMi. I have attached the review to my article. Please read it. In ReMi method, totally different type of sensors is conducted and the effective frequency range is also quite different and it requires much more sensors. I would like to conduct ReMi as you said while it is difficult to do it now, confined by many practical factors. I hope you would understand it. (line 40-48, line 52-54)
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		