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Journal Name:	<a href="#">AsianJournal ofPhysicaland ChemicalSciences</a>
Manuscript Number:	Ms_AJOPACS_35103
Title of the Manuscript:	Electrochemical cell equipment for salinity gradient power generation
Type of the Article	Original Research Article

**General guidelineforPeer Reviewprocess:**

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**

	<b>Reviewer's comment</b>	<b>Author's comment</b> (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)
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**Compulsory** REVISION  
comments

Comments.

The manuscript discusses the power production from salinity differences, in particular, between sea and river water. The Authors discuss two techniques, GCEQ and CCEQ.

The first is a primary battery, based on the dissolution of a metallic electrode, using salt water as electrolyte. It is not a salinity-gradient power technique; it does not exploit the salinity differences and it is not able to extract the mixing free energy.

The second technology, CCEQ, is also based on the dissolution of a metallic electrode, except in the case of carbon electrodes. This latter case is the only one that could be relevant for energy production from salinity gradients. However, it is not clear how it could work, in particular if the electrodes are not made of activated carbon (or graphene, or carbon nanotubes). In such cases, the technique would be the same described in doi: 10.1088/0953-8984/28/11/114004. However, the Authors do not perform a complete cycle; they only perform a part of the initial phase of a single cycle. The reported power densities are thus not representative of the real power density that could be obtained.

Before publishing, the Authors should repeat the experiments along the lines of the above-mentioned paper.

The described technique bears analogies with the "capacitive mixing" technique, that is the precursor

of the "mixing-entropy battery" technique. I suggest to cite the seminal paper, doi: 10.1103/PhysRevLett.103.058501. Capacitive mixing has a much wider literature, thus the name is also used (with a slight abuse of terms) also to refer to the use of battery-like electrodes.



I thank the reviewer for his

valuable comments and suggestions.

1. I go through the reference of doi :

10.1088/0953-8984/28/11/114004.

Yes, there is similarities.

But, that was a

laboratory

based study, while

present study is a field

based study. Here I

have shown how we

may make the set up for

such method in real

purpose. I like to

mention that this work is done in 2005

(mentioned in the

manuscript) and

submitted to **Nature**

(submission ID is –

2005-12-13740, 1<sup>st</sup>

December). It is also

archived in Research

Gate from Feb, 2015.

But, given reference is

published in 2016.

Thus, my work and

concept is much older

than all other works

related to this (most of

works are published

after 2010). It is my

limitation and

unfortunate that I still

now I have no scope

for doing research in

this direction due to

unavailability of laboratory facility.

2. This is a complete cycle because the proposal

which is made in the manuscript showing clearly that concentration difference would maintained naturally (due to rain, lake water would be diluted and sea water concentration would not change much.)

3. I am very much sorry to say that I have no

facility to repeat the experiments along the lines of the above-mentioned paper. If I had, I should did it 10 years ago.

4. Two reference of capacitive mixing paper

mentioned here is added.

5. Details of my submission to Nature is attached bellow.



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**Minor** REVISION comments

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<b><u>Optional/General</u></b> comments		
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