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**ACS Applied Materials & Interfaces - Manuscript ID am-2021-00110a**

2 pesan

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6 Januari 2021 pukul 11.03

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Kepada: teguh.firmansyah81@ui.ac.id

Cc: teguh.firmansyah81@ui.ac.id, gunawan@eng.ui.ac.id, eko@eng.ui.ac.id, kondoh.jun@shizuoka.ac.jp

05-Jan-2021

Journal: ACS Applied Materials &amp; Interfaces

Manuscript ID: am-2021-00110a

Title: "Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensor fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for detection of permittivity, conductivity, and refractive index"

Authors: Firmansyah, Teguh; Wibisono, Gunawan; Rahardjo, Eko; Kondoh, Jun

Manuscript Status: Submitted

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Your manuscript has been successfully submitted to ACS Applied Materials &amp; Interfaces.

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Dr. Kirk Schanze

ACS Applied Materials &amp; Interfaces

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**TEGUH FIRMANSYAH** <teguh.firmansyah81@ui.ac.id>  
Kepada: "kondoh.jun" <kondoh.jun@shizuoka.ac.jp>

6 Januari 2021 pukul 11.08

Dear Kondoh sensei,

I apologize for disturbing your time.  
I have revised the manuscript and resend it to ACS.  
Please find the manuscript and cover letter for the revision.


Best regards,  
Firmansyah.

=====  
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06-Jan-2021

Journal: ACS Applied Materials &amp; Interfaces

Manuscript ID: am-2021-00110a

Title: "Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensor fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for detection of permittivity, conductivity, and refractive index"

Author(s): Firmansyah, Teguh; Wibisono, Gunawan; Rahardjo, Eko; Kondoh, Jun

Manuscript Status: Associate Editor Assigned

Dear Dr. Firmansyah:

Your manuscript entitled "Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensor fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for detection of permittivity, conductivity, and refractive index" has been assigned to the following editor:

Professor Osvaldo Oliveira

Associate Editor

ACS Applied Materials &amp; Interfaces

Phone: 919-967-7730

Email: [oliveira-office@ami.acs.org](mailto:oliveira-office@ami.acs.org)

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## Revision Requested for Manuscript ID am-2021-00110a

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08-Feb-2021

Journal: ACS Applied Materials &amp; Interfaces

Manuscript ID: am-2021-00110a

Title: "Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensor fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for detection of permittivity, conductivity, and refractive index"

Author(s): Firmansyah, Teguh; Wibisono, Gunawan; Rahardjo, Eko; Kondoh, Jun

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Dear Dr. Firmansyah:

Thank you for submitting your manuscript for publication in ACS Applied Materials & Interfaces. The reviewer comments for the above-referenced manuscript are enclosed for your information. The reviewers indicate that the manuscript requires major revision to address a number of specific points before it can be published.

On the basis of the reviewer comments and my own assessment of the manuscript, I am willing to consider a revised version of this paper for publication in ACS Applied Materials & Interfaces pending a second round of external review. In preparing the revision, carefully consider all of the comments made by the reviewers.

We would like to receive your revision as soon as possible, by 01-Mar-2021 at the latest.

In addition to addressing the reviewers' comments, please make sure that your manuscript addresses the following issues:

Additionally, please enlist a native speaker to help revise the text. Please verify word usage. Specifically, there are many grammatical and semantic problems in the manuscript. For example, detection should be of changes in permittivity, conductivity and refractive index and not of permittivity, etc. One of the sections is The reviewers indicate that the English language needs to be improved. I recommend that you enlist the aid of a native English speaker to help you improve the text.

English editors can be contacted at: <https://authoringservices.acs.org>.

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Associate Editor  
ACS Applied Materials & Interfaces  
Phone: 919-967-7730  
Email: [oliveira-office@ami.acs.org](mailto:oliveira-office@ami.acs.org)

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Reviewer(s)' Comments to Author:

Reviewer: 1

Recommendation: Publish after minor revisions noted.

Comments:

This study is proposed "Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensor fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for detection of permittivity, conductivity, and refractive index"

General comment:

This research has good novelty. It has successfully combined acoustic (SH-SAW with open surface propagation) and plasmonic (AuNPs) for a multisensory application with the added effect of increasing sensitivity. I think the use of the open surface of SH-SAW (usually another paper proposed with a metalized surface) is the key that the proposed method was successfully integrated between SH-SAW and LSPR.

In my opinion, this article will attract the attention of various readers, including acoustics/piezoelectric, plasmonic/LSPR, and sensors field. So, I think it is suitable for journals ACS applied materials and interfaces. The data presented is complete, including AFM, CST simulation, SAW sensor, LSPR sensor, and cross-sectional effects.

However, the authors should add the revisions to improve the data.

1. The piezoelectric effect is not only influenced by permittivity and conductivity but also temperature. Authors can add room temperature and piezoelectric temperature data during the experiment.
2. The authors claim it has a blue-shift, the complete procedure should be explained.
3. See equation (page 7, line 5 and 13). The text contains DV/V and D $\alpha$ /k while the equation only lists DV and D $\alpha$ , please clarify.

4. On page 18, line 13, it has a typo or symbol /0/.
5. Table 3, the comparison with several SH-SAW data should be added.
6. In figure 2, the Author should explain the reason that the plasmonic E-field value for dimmer AuNPs has lower than single AuNP.

Overall comment:

1. Does the study integrate knowledge of a material or interface into an important application?

This study successfully integrated the acoustic method with a plasmonic method and implemented it into the important application, including permittivity, conductivity, and refractive index sensor.

2. What is the key element of novelty in the research that is reported?

In my opinion, the key element of the novelty is the hybrid between acoustic and plasmonic using SH-SAW (with open surface propagation) and LSPR (AuNPs). The use of the open surface of SH-SAW (usually another paper proposed with a metalized surface) is the key that the proposed method was successfully integrated between SH-SAW and LSPR.

3. Is the manuscript likely to be of interest to a reasonable number of scientists working in the field of applied materials and interfaces?

In my opinion, the paper will attract many scientists from several fields, including piezoelectric devices, LSPR device, and multifunctional sensor system.

4. Are the conclusions adequately supported by the data presented?

Yes, the conclusion is adequate, and it was supported by data.

5. Is the manuscript clear, and are the experimental procedures described in sufficient detail?

Yes, it is—the experimental and measurement described sufficiently.

My recommendation is to accept with revision.

Additional Questions:

Is this paper in the top 20% of manuscripts in the field?: Yes

If this paper is not in the top 20% of manuscripts in the field:

Is it appealing to a broad audience?: Yes

Does the manuscript give a complete description of the procedures that could be reproduced by others in the field?:

Yes

Are the literature references appropriate and up to date?: Yes

Provides significant insight into or the development of an important application: Good

Work is original and significant: Good

Conclusions adequately supported by data: Good

Clarity of presentation: Good

Potential for impact in materials science and engineering: Good

Reviewer: 2

Recommendation: Publish after minor revisions noted.

Comments:

In this work, the authors develop a hybrid acousto-plasmonic sensor by integrating SH-SAW and LSPR to detect permittivity, conductivity, and refractive index, simultaneously by the deposition of gold nanoparticles (AuNPs) on the propagation surfaces of SH-SAW sensor on a 36XY-LiTaO<sub>3</sub> substrate. The sensors showed a good sensitivity enhancement by using Au NPs based on frequency-domain and time-domain measurement. This work is very interesting and I recommend its acceptance after addressing the following question.

1. How does the size of Au NPs affect the sensitivity?

Additional Questions:

Is this paper in the top 20% of manuscripts in the field?: Yes

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Is it appealing to a broad audience?: Yes

Does the manuscript give a complete description of the procedures that could be reproduced by others in the field?:  
Yes

Are the literature references appropriate and up to date?: Yes

Provides significant insight into or the development of an important application: Good

Work is original and significant: Good

Conclusions adequately supported by data: Good

Clarity of presentation: Good

Potential for impact in materials science and engineering: Good

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**TEGUH FIRMANSYAH** <teguh.firmansyah81@ui.ac.id>

9 Februari 2021 pukul 06.54

Kepada: "kondoh.jun" <kondoh.jun@shizuoka.ac.jp>

Dear Kondoh sensei,

Finally, the ACS AMI paper's decision has already been rendered, and the decision is revision required. This email also has been forwarded to Kondoh sensei, Eko sensei, and Gunawan sensei. I will prepare a comprehensive and polite revision.

Best regards,

Firmansyah.

=====  
[Kutipan teks disembunyikan]

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**Jun KONDOH** <kondoh.jun@shizuoka.ac.jp>

9 Februari 2021 pukul 07.27

Kepada: TEGUH FIRMANSYAH <teguh.firmansyah81@ui.ac.id>

Dear Firmansyah san,

I have read the comments and questions. Please prepare the revised paper.



Best regards,  
Jun

[Kutipan teks disembunyikan]

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\*\*\*\*\*

Prof. Jun Kondoh  
Shizuoka University  
Graduate School of Integrated Science and Technology  
Johoku3-5-1, Naka-ku, Hamamatsu-shi 432-8561, Japan  
Phone and facsimile: +81 53 478 1221  
E-mail: [kondoh.jun@shizuoka.ac.jp](mailto:kondoh.jun@shizuoka.ac.jp)  
URL: <https://wvp.shizuoka.ac.jp/kondoh-lab/>

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**TEGUH FIRMANSYAH** <[teguh.firmansyah81@ui.ac.id](mailto:teguh.firmansyah81@ui.ac.id)>  
Kepada: Jun KONDOH <[kondoh.jun@shizuoka.ac.jp](mailto:kondoh.jun@shizuoka.ac.jp)>

9 Februari 2021 pukul 07.41

Dear Kondoh sensei,

Yes, Sensei. I will prepare the revised paper.

Best regards,  
Firmansyah.

2021-02-09 9:27 GMT+09.00, Jun KONDOH <[kondoh.jun@shizuoka.ac.jp](mailto:kondoh.jun@shizuoka.ac.jp)>:

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**TEGUH FIRMANSYAH** <[teguh.firmansyah81@ui.ac.id](mailto:teguh.firmansyah81@ui.ac.id)>  
Kepada: eko@eng.ui.ac.id, gunawan <[gunawan@eng.ui.ac.id](mailto:gunawan@eng.ui.ac.id)>

9 Februari 2021 pukul 16.06

Assalamualaikum. Wr. Wb.

Yth. Prof Eko dan Pak Gunawan.

Semoga bapak dalam keadaan sehat dan baik.  
Alhamdulillah jurnal ACS Applied Material sudah memberikan hasil review.  
Berikut ini hasil reviewnya. Insya allah sedang saya persiapkan revisinya.  
Semoga jurnalnya dapat dipublikasi. Amin ya Allah aamiin.

Demikian informasinya. Mohon maaf mengganggu waktunya.

Salam hormat,

Teguh Firmansyah.

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11 Februari 2021 pukul 07.23

Teguh Yth,

Selamat, segera revisi jangan sampai lewat waktunya

Salam,

Gunawan W

[Kutipan teks disembunyikan]

---

**TEGUH FIRMANSYAH** <teguh.firmansyah81@ui.ac.id>  
Kepada: gunawan@eng.ui.ac.id

12 Februari 2021 pukul 13.05

Walaikumusalam.

Siap pak.

Salam.  
Teguh Firmansyah.

=====

2021-02-11 9:23 GMT+09.00, [gunawan@eng.ui.ac.id](mailto:gunawan@eng.ui.ac.id) <[gunawan@eng.ui.ac.id](mailto:gunawan@eng.ui.ac.id)>:

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>> Yes, it is--the experimental and measurement described sufficiently.

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February 23, 2021

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I hope this email finds you well and healthy. First of all, we want to thank you for evaluating and allowing us an opportunity to address the reviewers' comments.

We have carefully revised the manuscript, according to the reviewers' comments. We are uploading:

**(a) Primary manuscript:** The final revised manuscript file without any highlighted.

**(b) Supporting Information for Review:**

The final revised manuscript with yellow highlighted.

The revised supporting information with yellow highlighted.

**(c) Supporting information for publication**

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As suggested by the Editor, we use the ACS Authoring Services professional proofreader with order ID: GT896NB1. (Editing Certificate has been uploaded to the Editor file)

**Revised title :** Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensors fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for the detection of permittivity, conductivity, and the refractive index

We hope that all typos and grammatical errors have been revised.

Please do not hesitate to contact me if there are any questions.

Sincerely Yours,

Teguh Firmansyah and Jun Kondoh  
Shizuoka University

Email:

teguh.firmansyah81@ui.ac.id

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---

**Journal** : ACS Applied Materials & Interfaces

**Manuscript ID** : am-2021-00110a

**Title** : Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensor fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for detection of permittivity, conductivity, and refractive index

## Response Letter

**Journal** : ACS Applied Materials & Interfaces  
**Manuscript ID** : am-2021-00110a  
**Title** : *Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensor fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for detection of permittivity, conductivity, and refractive index*  
**Revised Title** : *Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensors fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for **the** detection of permittivity, conductivity, and **the** refractive index*  
(Editing Certificate has been uploaded to the Editor menu)  
**Author(s)** : Firmansyah, Teguh; Wibisono, Gunawan; Rahardjo, Eko; Kondoh, Jun

First of all, we would like to thank the reviewers for their in-depth and constructive reviews of our manuscript and the editor for his careful reading and suggestion to resubmit our manuscript. In this revised version of the manuscript, we did our best to address all comments raised by the reviewers. A detailed item-by-item responses to each of the reviewers' points are presented below.

### Reviewer 1

#### **General Concern:**

*This research has good novelty. It has successfully combined acoustic (SH-SAW with open surface propagation) and plasmonic (AuNPs) for a multisensory application with the added effect of increasing sensitivity. I think the use of the open surface of SH-SAW (usually another paper proposed with a metalized surface) is the key that the proposed method was successfully integrated between SH-SAW and LSPR. In my opinion, this article will attract the attention of various readers, including acoustics/piezoelectric, plasmonic/LSPR, and sensors field. So, I think it is suitable for journals ACS applied materials and interfaces. The data presented is complete, including AFM, CST simulation, SAW sensor, LSPR sensor, and cross-sectional effects.*

#### **Author response:**

Many thanks to the reviewer for this positive feedback.

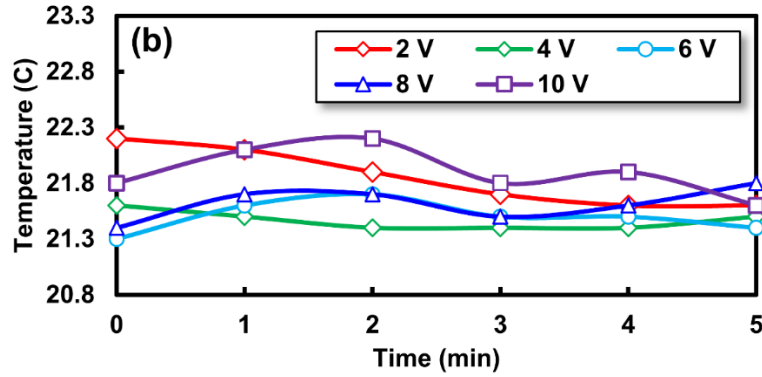
#### **Concern # 1:**

*The piezoelectric effect is not only influenced by permittivity and conductivity but also temperature. Authors can add room temperature and piezoelectric temperature data during the experiment.*

**Author response:** Thank you for the in-depth review. As a reviewer suggested, we added information regarding temperature as follows.

The experiment was carried out at a room temperature of 23.5C and humidity of 48%. Moreover, the temperature of the SH-SAW sensor with AuNPs was also investigated, as shown in **Figure 6(b)**. We

can see that the temperature during the experiment was stable at approximately 21.3C and 22.3C. Therefore, we can conclude that the effect of temperature on the SH-SAW sensor with AuNPs is small. Moreover, the new figure has been added to the main text, as shown in **Figure 6(b)**.



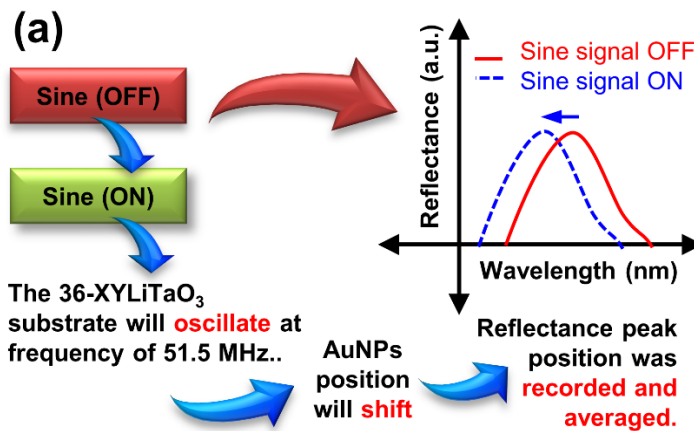
**Figure 6.** (b) Temperature of the SH-SAW sensor with AuNPs during the experiment;

**Author action:** We updated the manuscript by a yellow highlighted, as shown on page 19, line 37.

**Concern # 2:**

*The authors claim it has a blue-shift, the complete procedure should be explained.*

**Author response:** Thank you very much for your review. We have added the complete procedure of the tunable LSPR effect, as shown in **Figure 6(a)**. First, the SH-SAW stimulates the dynamic movement of AuNPs, and the motion of the AuNPs generates dynamic plasmonic E-field values. Therefore, the difference in the plasmonic E-field values produces tunable LSPR. Using the OFF/ON sine signal comparison strategy, we can see from the robust tunable LSPR data that the peak position has a consistent blueshift. Then, the new figure has been added to the main text, as shown in **Figure 6(a)**.



**Figure 6.** (a) Procedure used to examine the tunable LSPR effect.

**Author action:** We updated the manuscript by a yellow highlighted as shown on page 19, line 34 and page 20, line 38.

**Concern # 3:**

*See equation (page 7, line 5 and 13). The text contains  $DV/V$  and  $D\alpha/k$  while the equation only lists  $DV$  and  $D\alpha$ , please clarify.*

**Author response:** Many thanks to the reviewer for this feedback. We apologize for this error. We have corrected the text as suggested. It should be  $\Delta V$  and  $\Delta\alpha$ .

**Author action:** We updated the manuscript by the yellow highlighted as shown on page 7, line 3 and page 7, line 13

**Concern # 4:**

*On page 18, line 13, it has a typo or symbol /0/.*

**Author response:** Thank you for your correction. We have corrected the text. The updated version should be:

We can see that the values of  $\Delta\alpha/k_0$  and  $\Delta V/V$  for Case 1 are always consistently lower than  $\Delta\alpha/k_0$  and  $\Delta V/V$  for Case 2.

**Author action:** We updated the manuscript by a yellow highlighted as shown on page 18, line 13.

**Concern # 5:**

*Table 3, the comparison with several SH-SAW data should be added.*

**Author response:** Thank you very much for your review. As suggested by reviewer, the additional SH-SAW sensor data has been added to Table 3

**Author action:** We updated the manuscript by a yellow highlighted as shown in Table 3.

**Concern # 6:**

*In figure 2, the Author should explain the reason that the plasmonic E-field value for dimmer AuNPs has lower than single AuNP*

**Author response:**

Thank you very much for your comment.

The plasmonic E-field value obtained for dimer AuNPs with longer distances was lower than that obtained for single AuNPs, which was caused by the long distance between AuNPs. Therefore, its dimer structure can be considered monomer AuNPs. Comparing the E-field values of the dimer (3.76 V/m) and monomer (3.77 V/m) shows that the values are equal, and there is not a significant difference.

**Author action:** We updated the manuscript by the yellow highlighted as shown on page 12, line 9.

## Reviewer 2

### **General Concern:**

*In this work, the authors develop a hybrid acousto-plasmonic sensor by integrating SH-SAW and LSPR to detect permittivity, conductivity, and refractive index, simultaneously by the deposition of gold nanoparticles (AuNPs) on the propagation surfaces of SH-SAW sensor on a 36XY-LiTaO<sub>3</sub> substrate. The sensors showed a good sensitivity enhancement by using Au NPs based on frequency-domain and time-domain measurement. This work is very interesting*

**Author response:** Many thanks to the reviewer for this positive feedback.

### **Concern # 1:**

*How does the size of Au NPs affect the sensitivity?*

**Author response:** Thank you very much for the insightful discussion.

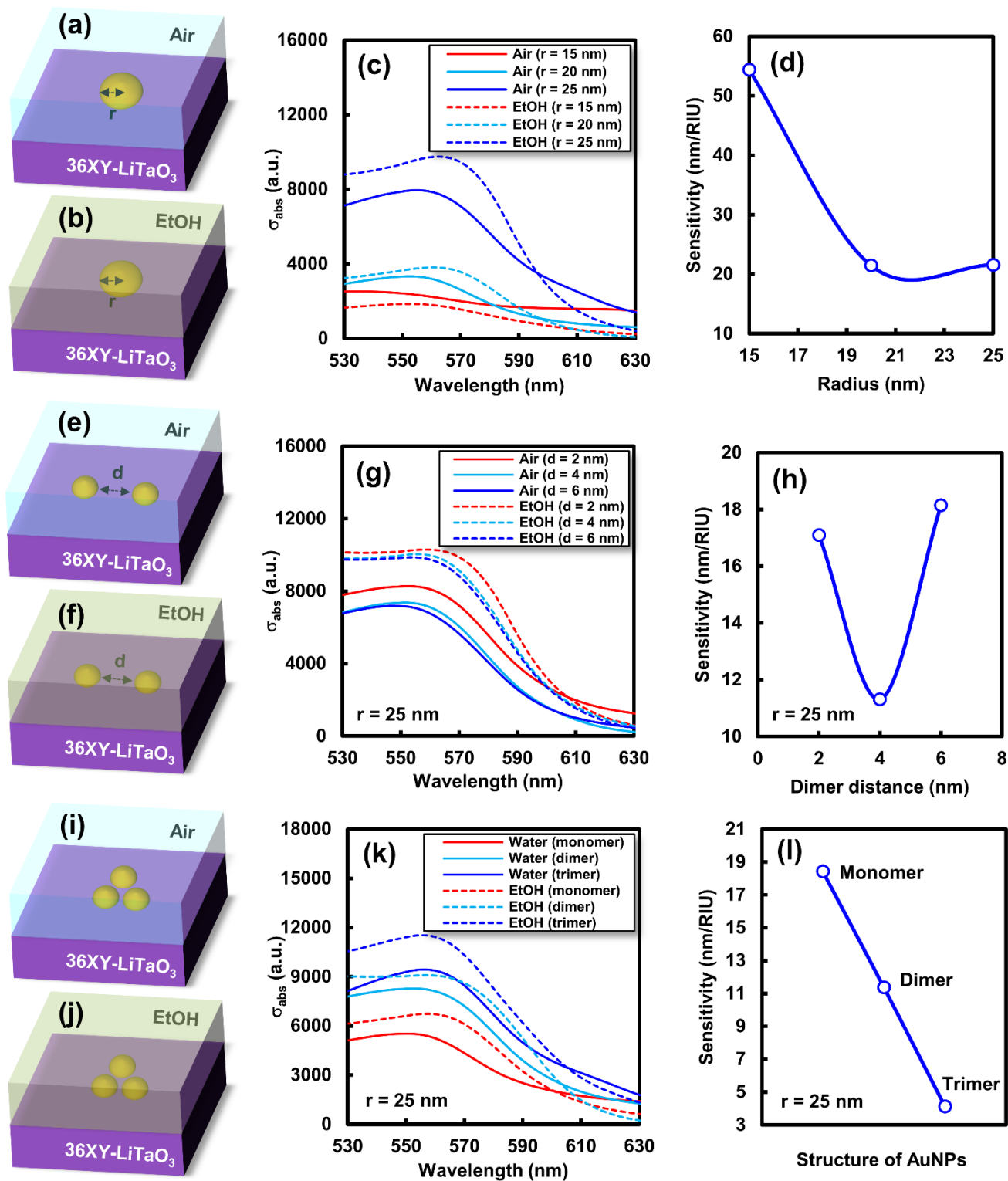
The sensitivity factor is a unique and exciting parameter. However, our research is focused on the multifunctional hybrid acousto-plasmonic sensor. The sensitivity enhancement is an additional positive effect. It should be noted that the SH-SAW sensor sensitivity is not only affected by AuNPs but also annealing temperature<sup>1-5</sup>, quenching, and propagations structure of the SH-SAW<sup>6-9</sup>. Similar to the SH-SAW sensor, the LSPR sensor sensitivity is also affected by several factors, such as size, distance, the structure of nanoparticles, and its interaction with the medium. The correlation of the LSPR sensitivity with the particle structure was proposed by<sup>10-12</sup>.

For addressing the reviewer's question regarding the size of AuNPs and its effect to the sensitivity, we have added the new **Figures S4 (a-l)**. It contains the simulated result of the size effect, distance effect, and structure effect of AuNPs on 36XY-LiTaO<sub>3</sub> substrate to the LSPR sensitivity sensor. In brief, Figures **S4 (a-l)** show the simulation of the AuNP with a different radius on (a) air, (b) EtOH liquid, and (c) its  $\sigma_{\text{abs}}$  value as well as (d) sensitivity effect. The simulation of the dimer AuNP with difference distance on (e) air, (f) EtOH liquid, and (g) its  $\sigma_{\text{abs}}$  value and (h) its sensitivity effect. The simulation of the AuNPs with trimer structure on (i) air, (j) EtOH liquid and (k) its  $\sigma_{\text{abs}}$  value, and (l) its sensitivity effect. It shows that the sensitivity was affected by the size, distance, and structure of AuNPs. We believe this information enriches our data.

Moreover, we have added your valuable comment to the conclusion part as the expanded work for optimizing the sensitivity response. We hope our explanation does not reduce the main proposal of the multifunctional hybrid acousto-plasmonic sensor. Finally, the additional related references also have been added to the manuscript.

**Author action:** We updated the manuscript by yellow highlight as shown on page 22 line 5 and page 23 line 40.





**Figure S4.** The simulation of the AuNPs with difference radius on (a) air, (b) EtOH liquid and (c) its  $\sigma_{\text{abs}}$  value and (d) sensitivity effect. The simulation of the dimer AuNP with difference distance on (e) air, (f) EtOH liquid and (g) its  $\sigma_{\text{abs}}$  value and (h) its sensitivity effect. The simulation of the AuNPs with trimer structure on (i) air, (j) EtOH liquid and (k) its  $\sigma_{\text{abs}}$  value and (l) its sensitivity effect.

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## Editor

### **Concern # 1:**

*Additionally, please enlist a native speaker to help revise the text. Please verify word usage. Specifically, there are many grammatical and semantic problems in the manuscript. For example, detection should be of changes in permittivity, conductivity and refractive index and not of permittivity, etc. One of the sections is the reviewers indicate that the English language needs to be improved. I recommend that you enlist the aid of a native English speaker to help you improve the text.*

### **Author response:**

Thank you very much for your valuable input.

As suggested by the Editor, we use the ACS Authoring Services professional proofreader with order ID: GT896NB1 (Editing Certificate has been uploaded to the Editor file). We hope that all typos and grammatical errors have been revised.

## Manuscript Formatting Request - Non-scientific

### **Concern # 1:**

*Please include a label for part (f) in your Figure 7 caption.*

### **Author response:**

We apologize for this error, and we have corrected the text as suggested.

**Figure 7(f).**  $S_r$  of the LSPR sensor for the OFF and ON sine signals.

### **Author action:**

We updated the manuscript by a yellow highlighted, as shown on page 35, line 42.

Finally, please do not hesitate to contact me if there are any questions.

Yours Sincerely,

Teguh Firmansyah and Jun Kondoh  
Shizuoka University

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**Manuscript am-2021-00110a.R2 assigned to Editor**

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28-Feb-2021

Journal: ACS Applied Materials &amp; Interfaces

Manuscript ID: am-2021-00110a.R2

Title: "Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensors fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for the detection of permittivity, conductivity, and the refractive index"

Author(s): Firmansyah, Teguh; Wibisono, Gunawan; Rahardjo, Eko; Kondoh, Jun

Manuscript Status: Associate Editor Assigned

Dear Dr. Firmansyah:

Your manuscript entitled "Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensors fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for the detection of permittivity, conductivity, and the refractive index" has been assigned to the following editor:

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Associate Editor

ACS Applied Materials &amp; Interfaces

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04-Mar-2021

Journal: ACS Applied Materials &amp; Interfaces

Manuscript ID: am-2021-00110a.R3

Title: "Multifunctional and sensitivity enhancement of hybrid acousto-plasmonic sensors fabricated on 36XY-LiTaO<sub>3</sub> with gold nanoparticles for the detection of permittivity, conductivity, and the refractive index"

Authors: Firmansyah, Teguh; Wibisono, Gunawan; Rahardjo, Eko; Kondoh, Jun

Manuscript Status: Accept

Dear Dr. Firmansyah:

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March 15, 2021

Journal: ACS Applied Materials + Interfaces  
Manuscript No.: am-2021-00110a (10.1021/acsami.1c00110)  
Title: Multifunctional and Sensitivity Enhancement of Hybrid Acoustoplasmonic Sensors Fabricated on 36XY-LiTaO<sub>3</sub> with Gold Nanoparticles for the Detection of Permittivity, Conductivity and the Refractive Index  
Authors: Teguh Firmansyah, Gunawan Wibisono, Eko Tjipto Rahardjo, Jun Kondoh .  
Manuscript Status: Published

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