
回复: RSI: MS #RSI25-AR-01434 Decision Letter

发件人 Xinhang Xu <xihxu@ucdavis.edu>
日期 周三 2025/9/24 19:01
收件人 Xiaoliang Li <bxlli@ucdavis.edu>
抄送 Yilun Zhu <amzhu@ucdavis.edu>

Hi Xiaoliao

Thank you ! I will take care of it .

Best

Xinhang

发件人: Xiaoliang Li <bxlli@ucdavis.edu>
发送时间: 2025年9月24日 18:44
收件人: Xinhang Xu <xihxu@ucdavis.edu>
抄送: Yilun Zhu <amzhu@ucdavis.edu>
主题: Fwd: RSI: MS #RSI25-AR-01434 Decision Letter

Hi Xinhang,

We receive the reviewers' comments today and they are positive. Please prepare the initial response letter send it to us soon. Yilun and I can help you with it

.

I also attached the template I used before.

Best regards,
Xiaoliang Li

Begin forwarded message:

From: rsi-edoffice@aip.org
Subject: RSI: MS #RSI25-AR-01434 Decision Letter
Date: September 24, 2025 at 18:37:12 PDT
To: <bxlli@ucdavis.edu>
Reply-To: rsi-edoffice@aip.org

Dear Dr. Li

Thank you for submitting your manuscript, referenced below, to Review of Scientific Instruments for consideration.

"Optimization and Active Stabilization of a Far-Infrared Laser for NSTX-U High Poloidal Wavenumber Scattering Diagnostics "

RSI25-AR-01434

Your manuscript has been reviewed. The reviewers are of the opinion that the paper should be revised. See the reports below, which list in detail the comments of the reviewers.

Please make the appropriate changes and upload your revised manuscript files using the link below. When uploading your revised manuscript, you should:

- Indicate in your response letter how the manuscript has been revised to address the points raised by the reviewers. For comments or suggestions with which you do not agree, please provide a rebuttal.
- Include your manuscript number in your response letter.
- When submitting your revision, please follow these instructions:
 - For Word users: Upload your revised Word file with all figures embedded within the text.
 - For TeX users: Upload your revised TeX file along with a PDF that includes all figures embedded within the document.
 - Do not upload figures as separate files - all figures must be embedded in your main document.

You will also be asked to upload a highlight image that will be used in the table of contents if your manuscript is published. The highlight image should be a visually interesting figure representing your manuscript and may also be selected for the Cover Image. Further instructions will appear on the file upload screen.

Click on the following link to submit your revised manuscript:

<https://rsi.peerx-press.org/cgi-bin/main.plex?el=A2J6NzHw6A5MIKH6I6A9ftd8lnu5Eyj7FI9z5cc43iMwY>

Your revised manuscript is due 08-Nov-2025. Please submit your revised manuscript promptly. A manuscript returned after 08-Nov-2025 will be regarded as a new submission and will be assigned a new submission date. If that is required, please refer to your previous submission (include the previous manuscript number RSI25-AR-01434) in the cover letter.

Sincerely,

Jonathan Lang
Associate Editor
Review of Scientific Instruments

Manuscript #RSI25-AR-01434:

Reviewer Comments:

Reviewer #1 Evaluations:

Recommendation: Publish after minor revision

Technically sound: Y

New ideas: Y

Just a variation of known device or technique: N

Appropriate journal: Y

Significant scientific advancement: Y

Editor's Pick or Featured Article: N

Proper context with related work: Y

Clear explanation: Y

Adequate references: Y

Suitable title: Y

Adequate abstract: Y

Significant numerical quantities: Y

Clear figures with captions: Y

Excessive text or figures: N

English satisfactory: Y

Reviewer #1 (Remarks):

see uploaded file

Reviewer #2 Evaluations:

Recommendation: Publish after revision

Technically sound: Y

New ideas: Y

Just a variation of known device or technique: Y

Appropriate journal: Y

Significant scientific advancement: Y

Editor's Pick or Featured Article: N

Proper context with related work: Y

Clear explanation: N

Adequate references: Y

Suitable title: Y

Adequate abstract: Y

Significant numerical quantities: N

Clear figures with captions: Y

Excessive text or figures: N

English satisfactory: Y

Reviewer #2 (Remarks):

This work concerns the optimization and the active stabilisation of a far-infrared molecular laser used for plasma diagnostics for fusion studies. The instrument and the improvement are described. The article is interesting but in my opinion some aspects should be improved. Some questions and suggestions for revisions:

- Page 3: "A dielectric-coated silicon wafer optimized for dual functionality, while achieving 98% transmission in the FIR range and reflecting 99% of the incident CO₂ laser radiation". Please consider to give more information about the structure of this part of the laser as could be expected from a scientific instrument journal article.

- Page 4: In the first paragraph the feed-in description is not very clear. It seems that the 1m focal length lens focuses the beam through the input coupler, consisting in a metal mirror with a hole in the center but the sentence describe a lens for collimation. In figure 4, it is mentioned a "focus lens". This should be re-arranged in order to be more coherent. Another point is that the laser waveguide is not described : the material and dimensions are important to understand the system and to interpret the beam profiles presented later.

- Page 7: "...marked as # 1)". These sentence seems to refer to Fig. 7, please add "Fig. 7".

- Page 8: First paragraph: the dielectric-coated silicon wafer in the described again, please refer to the description of page 3.

- Page 11: First paragraph, some aspects like the feed-in system has already been described before. Third paragraph: "As demonstrated in Fig. 9, ": It seems that the sentence refers to Fig. 10 ?

- Page 12: The figure obtained in figure 12 is clearly periodic with a FIR half-wavelength period as expected (upper figure). It is less obvious for the bottom figure, perhaps a Fourier transform could be used to visualize more clearly the different periodicities that are probably present. When the cavity length changes (which optics is really moving ?), it changes also the feedback to the CO₂ laser changing potentially the pumping conditions. So the behaviour could be more complicated than a simple Fabry-Perot cavity, more cavities can be involved.

- Page 13: "without compromising system performance": a few lines below, the authors mention that this improvement comes at the cost of reduced FIR power, it is not fully coherent. This part could be re-written to be more clear. It could be also mentioned that the increase of formic acid pressure increases the absorption of the pump beam and thus reduces the amplitude of the

standing waves resulting in a smoother curve when the cavity length is scanned.

- Page 17: A part of reference 24 is missing.

This email message and any files transmitted with it contain confidential information. If you are not the intended recipient please notify the sender, delete this email and any attachments from your system, and destroy any copies you have made, electronic or otherwise.

IMPORTANT NOTE: Links in this email message are specific to you, the email recipient and should not be forwarded to anyone.