Collaboratory Assessment and Feedback Form

STUDENT NAME AND PROJECT TITLE

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| Sam Gibson, The Feasibility of an Imaging Motional Stark Effect Diagnostic for MAST-U |

BACKROUND AND MOTIVATION *Proposal satisfies criterion Yes- but !*

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| *Comment on how well the arguments for the project are developed. Is there a clear discussion of how the project will sit within the broader research field?  Is it clear what benefits the project will bring?*  **The background is beautifully presented and Sam demonstrates good knowledge of the proposed project area and the issues involved. However, I am concerned about the rational for the visit to ANU?**  **I am sure CCFE and other tokamak teams could benefit from the modelling and design work, but I am unsure of the justification of using ANU in particular and the necessity to go there to carry out the stated tasks.** |

METHODOLOGY *Proposal satisfies criterion No*

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| *Is the methodology described in sufficient depth? Is it well-founded and sound? Are the key risks identified, and is there adequate risk mitigation strategy?*  **I became a bit confused reading the “grant” proposal. The purpose of the visit is to compare MAST-U MSE simulation code to those produced by ANU researchers. To use the ANU code to model and design an IMSE diagnostic for MAST-U. My first thought is why go to the lengths of going Australia to do this? Could not it all be done at CCFE or Durham, with a loan of the ANU codes/ remote computer access?**  **I am trying to understand what the benefit of going to ANU is? Do they have something unique that cannot be accessed remotely? Specialist hardware? Specialist expertise?** |

**IMPACT** *Proposal satisfies criterion* **Not sure**

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| *Is the impact (non-academic and academic) clearly identified? Has thought been given to the pathways to impact: what is put in place to ensure the impact is realised?*  **Maybe. The project presents an opportunity to demonstrate a proof of concept prototype IMSE system for MAST-U. Future improvements to IMSE and conventional systems for MAST-U.**  **Why is the Impact section written in the 3rd person? “Sam can then suggest …..”. Did the candidate write this application? Or are these the supervisors/advisors comments? The sections need to be written by the applicant.** |

**PERSONAL DEVELOPMENT** *Proposal satisfies criterion* ***No***

*Does the project provide personal development opportunities for the student?*

**Well maybe - possibly. Enhanced networking. Work in world leading institution. Social skills. But why is the section written in the 3rd person? Who wrote this application? I am not sure the case is well made for personal development. What is special about ANU.**

**JUSTIFICATION OF RESOURCES** *Proposal satisfies criterion* ***No – not sure***

*Are the requested resources reasonable and justified? If there is a request for funds above the £3k budget, comment on how important the full funding is for the project.*

**I think this might be ok, as request from CDT does not seem too high, but the budget table is highly confusing with mixed $ and £. I suggest it is rewritten so we know the CDT request more clearly. The resources requested need significant clarification in the proposal.**

**PROJECT PLAN** *Proposal satisfies criterion* ***Yes***

*Is the plan clear and realistic? Are the objectives achievable in the time?*

**The plan is clear, the objectives are probably achievable. The “extended” time is taken up with simulation and design, building optical setup and testing. But I am confused.** **Do the PRL group at ANU have the hardware? Who is doing this activity?**

**OVERALL ASSESSMENT**: Provide an overall mark for the project using the following guidelines

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| An outstanding proposal that comfortably meets all of the assessment criteria | **Proposal accepted \*** |  |
| A very good proposal that broadly meets all of the assessment criteria, but could be stronger. | **Proposal accepted \*** |  |
| A good proposal, but up to two of the assessment criteria are not adequately met. | **Resubmit**  **Revised proposal** 2 week deadline | **X** |
| The proposal is not well written and fails to meet a significant number of assessment criteria. | **Submit a new** **proposal**  4 week deadline |  |

**\****If your proposal has been accepted please contact your finance officer regarding the funding. If you require in excess of £3000 you will need produce a formal letter requesting use of the Internationalisation fund, for the CDT Management Board, that sets out justification for the trip and the costs involved. Confirmation that your supervisor approves is also required.*

**Resubmission by Student**

**Please note** that if your proposal is not accepted and you are asked to **resubmit**, then you will need to indicate below how you have addressed the points raised by the assessor in your revised submission.

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| **Points to address** | **How they were addressed** |
| **Justification of using ANU in particular and the necessity to go there to carry out the stated tasks** | I have now stated that the primary focus of the collaboration is for experimental work using the IMSE system the researchers at ANU had used previously on KSTAR. This is addressed in highlighted sections in “Background and motivation”, “Project Outline” and “Project Imact”. The main priority is to gain a good understanding of the necessary calibrations and alterations to the optical setup which may be required as MAST-U is a tight aspect ratio tokamak. |
| **Do they have something unique that cannot be accessed remotely? Specialist hardware?** | This has been addressed in the highlighted section “background and motivation” and “Project Impact”.  Using the equipment and gaining technical experience would not be possible solely through discussion and remote access. With regards to modelling, the majority of this modelling work will be done prior to visiting ANU such that most of the time out at ANU can be used for experimental purposes. I have now added that ANU has the specialist hardware (IMSE diagnostic used on K-STAR) already at their facility, which will be used during my time there. |
| **Specialist expertise****?** | This is addressed in “project impact” and “personal development”. Prof. Howard founded the theory, diagnostic set up and processing techniques with Dr. Michael. They are currently the world leaders in this technology and have assisted with or built the majority of imaging MSE systems used on other tokamaks. Having access to working with these field leading researchers would massively improve the academic impact of my collaboratory, relevance to other research institutions, and acquire knowledge that would not be possible to gain anywhere else. |
| **Why is the Impact section written in the 3rd person?** | I followed the style guide of the example proposal provided to us, which was written in the third person. I will raise this with necessary staff such that they can provide guidance for future years as to what is the most appropriate style to use. |
| **I am not sure the case is well made for personal development. What is special about ANU.** | Previously addressed – Specialist hardware not available anywhere else which will be fully available for me to use during my time at ANU ASDEX Upgrade have their version of an IMSE, but this is currently in use in their next campaign so it would not be possible to run any calibration tests on their diagnostic. |
| **I suggest it is rewritten so we know the CDT request more clearly. The resources requested need significant clarification in the proposal.** | Rewritten funding requirements table, which shows a breakdown of total necessary funding, the total amount of funding which will be provided by ANU (primarily used for accommodation) and the final total which is requested CDT amount in green. |
| **Do the PRL group at ANU have the hardware? Who is doing this activity?** | Addressed in background and motivation – ANU have all the necessary hardware for use. I will be undertaking this project, with the assistance of Dr Michael as a day to day supervisor and Prof. Howard on a weekly basis. |
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| Further notes:  Proposal is now slightly longer than 6 pages, however I hope this now addresses all points raised. | |

**ASSESSORS ASSESSMENT OF RESUBMISSION**: Provide an overall mark for the project using the following guidelines

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