

To,
The Editors,
Physical Review B.

16th August, 2022

Dear Dr. Kancharla,

We are writing to submit the revised manuscript titled “Frustration shapes multi-channel Kondo physics: a star graph perspective” (Code BS14324) for your consideration towards publication in Physical Review B. We are also submitting our responses to the comments, suggestions and questions raised by the fourth referee, and have offered clear and detailed answers on every point raised. We believe that the assessment of the referee is incorrect, as it is based on a misunderstanding of our approach and the emphasis given to the zero-bandwidth problem. In our response, we have argued that the zero-bandwidth model can be safely extracted at the RG stable intermediate coupling fixed point (ICFP) of the problem (in contrast to the situation at the RG unstable strong coupling fixed point, as pointed out by the referee).

We have also clarified that the degenerate ground state manifold of the zero-bandwidth model enables a systematic renormalized perturbation theory in revealing the effective theory for the low-lying non-Fermi liquid excitations of the system. This has also been demonstrated explicitly in Sec. IV of the main manuscript and Sec. III of the supplementary materials. In the latter, we have shown how our approach delivers the well-known $\ln(T)$ critical behaviours of the impurity specific heat and susceptibility in the 2CKM. The fourth referee doubted that this could be obtained from our approach, but had perhaps overlooked these sections in the previous version of our manuscript. We believe that this should clear the misunderstanding.

In answering the questions, providing clarifications and complying with all suggestions made, we have also improved the presentation of the work (especially at the end of Sec. IIB). Detail of all changes to the manuscript are laid out in our responses to the referee. Thus, we believe that we have made a sincere and concerted effort at convincing the fourth referee of the correctness and importance of our work. We request you, therefore, to kindly consider accepting our work for publication.

Yours sincerely,
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