

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

Excellent

Explanation to Applicant

The applicant is an undergraduate at UCSB whose initially has some challenges adapting to a new academic environment but who now has a very good GPA. The applicant has pursued available research opportunities and is working in a lab that uses MKIDs for astrophysical observations. The applicant developed a database to organize and quickly access observations; this required the applicant to learn a number of programming and database skills. Subsequently the applicant developed a cosmic ray filter for these observations. The applicant then pursued outside summer research opportunities and worked on developing a throughput simulation for the Palomar Radial Velocity Instrument at Caltech/JPL. The applicant is self-driven, motivated and successful in her research. The applicant also has excellent communication skills.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

The applicant volunteered for the Society of Advancement of Chicano/Latinx and Native American in Science which introduced underrepresented middle school student to science. The applicant founded a Brazilian Student Association branch at UCSB, which helps students develop a sense of community.

Summary Comments

The applicant is a very good student as evidenced by improving grades who has successfully pursued a number of research opportunities while trying to help underrepresented students. The applicant's plan to continue exoplanet research at Caltech is well thought out and explained, and the applicant plans to start a Latinx STEM society during graduate school. The applicant is self-motivated and successful in independently carrying out research. The applicant also has excellent communication skills.

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Explanation to Applicant

Development of high resolution spectrographs is important project both for current experiments and ones coming online in the future. The applicant has experience in this area and has proposed a project that is both significant and achievable.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Excellent

Explanation to Applicant

The applicant proposes to start a Latinx support and resource group at Caltech. She had started a similar group at UCSB (BRASA) and has demonstrated commitment to this project. She has identified who will benefit from this outreach, and brings her own experience to the project.

Summary Comments

Overall a strong proposal . The applicant has strong letters of support, and a proven record of accomplishment. The improvement of high resolution spectroscopy will benefit many different observations.

Intellectual Merit Criterion

Overall Assessment of Intellectual Merit

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Explanation to Applicant

The candidate is clearly a strongly motivated and capable student who is likely to be a successful scientist. Their personal story provides convincing evidence for this expectation. Their past efforts demonstrate perseverance and solid research instincts. Their proposed project to improve wavefront sensor technologies used in exoplanet searches is an interesting idea to address an important problem. The plan specifics are limited, on the other hand, so, it is somewhat difficult to judge either the candidate's contribution to the plan or its likelihood of success.

Broader Impacts Criterion

Overall Assessment of Broader Impacts

Very Good

Explanation to Applicant

The candidate has a solid record of leadership in outreach to under-represented groups. The proposal includes clear plans to continue those efforts, this providing solid expectations for outreach impact during the GRF.

Summary Comments

The candidate is clearly a motivated and capable student who seems likely to be a successful scientist and to reach out to under-represented groups in astronomy. The proposed research project is interesting, although insufficient information is provided to judge the candidate's contribution to the plan or its likelihood of success.