

Regulated Research Institutional/Industrial Setting Form (1C)

This form must be completed AFTER experimentation by the adult supervising the student research conducted in a regulated research institution, industrial setting or any work site other than home, school or field.

Student's Name(s) Rohan Subramani

Title of Project TESS Updates to Plan JWST Observations for Atmospheric

Characterization of Promising Exoplanets

To be completed by the Supervising Adult in the Setting (NOT the Student(s)) after experimentation:

(Responses must be on the form as it is required to be displayed at student's project booth; please do not print double-sided.)

The student(s) conducted research at my work site:

1. Did you or your proxy (e.g. graduate student, postdoc, employee) mentor or provide substantial guidance to the student researcher? ☒ Yes ☐ No

- a. If no, describe your and/or your institution's role with the student researcher and his/her project (e.g. supervised use of equipment on site without ongoing mentorship and sign below.

- b. If yes, complete questions 2–5.

2. Is the student's research project a subset of your ongoing research or work? ☒ Yes ☐ No
Use questions 3, 4 and 5 to detail how the student's project was similar and/or different from ongoing research or work at your site.

3. Describe the independence and creativity with which the student:
a. developed the hypotheses or engineering goals for the research project

The hypotheses of the research project were already made before his arrival. He had a very good understanding of the hypotheses.

- b. designed the methodology for his/her research project

The methodology for the project was already designed before his arrival. He had a very good understanding of the methodology.

- c. analyzed and interpreted data

Rohan independently interpreted and assessed many astronomical data sets. He was creative in finding problems with the data, unusual patterns, outliers, etc. He also carefully read many research papers and created a very successful poster on his work.

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4. Detail the student's role in conducting the research (e.g. data collection, specific procedures performed). Differentiate what the student observed and what the student actually did.

Rohan worked on recharacterizing planets outside our Solar system by using the data collected by the Transiting Exoplanet Survey Satellite (TESS), a spaceborne NASA telescope. In order to perform the analysis he used an already-available software. But, he collected the input data himself, reading many research papers, assessing their methodologies and extracting the relevant information from them or tables in astronomical databases into Excel sheets. During the project he also observed many components of exoplanet research such as finding exoplanet candidates and attended the TESS Science Conference held at MIT.

5. Did the student(s) work on the project as part of a group? ☒ Yes ☐ No

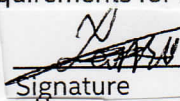
If yes, how many individuals were in the group and who were they (e.g. high school students, graduate students, faculty, professional researchers)?

Yes, Rohan worked as part of a group. The group consisted of myself, the postdoctoral fellow Maximilian N. Günther and the high school student Ashley Davidson. However, Rohan ' s research project was independent of Ashley ' s project. Although they exchanged know-how from time to time, Rohan ' s individual contribution was of very high value to the overall progress of the research project.

I attest that the student has conducted the work as indicated above and that any required review and approval by institutional regulatory board (IRB/IACUC/IBC) has been obtained. Copies are attached if applicable. I further acknowledge that the student will be presenting this work publicly in competition and I have communicated with the student research regarding any requirements for my review and/or restrictions of what is publicized.

Tansu Daylan

Supervising Adult's Printed Name


Signature

Postdoctoral research fellow
Title

Massachusetts Institute of Technology

Institution

08/17/19

Date Signed (must be after experimentation) (mm/dd/yy)

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