

Physics students take first-year project to peer-reviewed paper

July 22 2021, by Hayley Dunning



Impression of Cassini at Enceladus. Credit: Imperial College London

Two Physics students have turned their first-year project using real data from the Cassini mission into a peer-reviewed paper.

Zeqi Zhang and Xinni Wu, along with their [supervisor](#), Dr. Ravindra Desai, and Dr. Charles Lue from the Swedish Institute of Space Physics, have published their study in *The Planetary Science Journal*.

When given a range of projects to choose from for their first-year project as [undergraduates](#), Zeqi and Xinni chose to take on some real data gathered by the Cassini spacecraft as it flew by Saturn's moon Enceladus.

They investigated [molecules](#) in plumes of material ejected from the moon's oceans, beneath its icy crust, and calculated how long they would last before being destroyed by particles from the Sun.

Dr. Desai was so impressed by their insights, and how they took the study further by calculating the fate of molecules across the Solar System, he recommended they turn it into a [paper](#) and try to get it published.

Xinni said: "It felt quite unrealistic, because we had been reading and referencing lots of papers, but it is the first time there will be an actual paper with our names on it, instead of a lab report. It feels even better when we think that what we have done could help more researchers in the future."

The team worked hard, and three years on, as Zeqi and Xinni are preparing to graduate with an MSci in Physics, their paper has been published. Zeqi said: "It's almost like a reminder that we did something that's as impactful as that. It's a time for us to reflect on the degree as a whole; how much progress and improvement we have made."

More information: Ravindra T. Desai et al, Photodetachment and Test-particle Simulation Constraints on Negative Ions in Solar System Plasmas, *The Planetary Science Journal* (2021). [DOI:](#)

[10.3847/PSJ/abf638](https://phys.org/news/2021-07-physics-students-first-year-peer-reviewed-paper.html)

Provided by Imperial College London

Citation: Physics students take first-year project to peer-reviewed paper (2021, July 22) retrieved 25 April 2024 from

<https://phys.org/news/2021-07-physics-students-first-year-peer-reviewed-paper.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.