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Citizen Science with the Canadian Collaborative Occultation Network

Wednesday 5 June 2019 14:30 (15 minutes)

I will discuss the CanCON (Canadian Collaborative Occultation Network) project, a citizen science initiative to study Trans-Neptunian Objects (TNOs) in the outer solar system. CanCON involves teachers, students, and amateur astronomers using modest telescopes and digital cameras to determine TNO sizes through precise measurements of the occultations of background stars by the TNOs. Stellar occultations are the only way to directly measure TNO sizes, which provides strong constraints on their formation and evolution. We have extended the existing RECON (Research and Education Collaborative Occultation Network) by ˜10% by adding six stations in the Okanagan Valley, extending from Osoyoos to Vernon. These stations are run by high school science teachers and their students, and members of the Royal Astronomical Society of Canada. One of the main goals of CanCON is to engage students and teachers in genuine astronomical research, giving them valuable hands-on experience and a better understanding of STEM subjects.

CanCON has been operational since the fall of 2018, and CanCON members have taken part in several campaigns since then. I will discuss results from these campaigns, and our plans for the future. I will report specifically on our successful observation of the occultation of a star by the TNO nicknamed 'Goblin'and the constraint on the size (and thus limit on the albedo) that this provides.

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