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## **X Public Education & Communication**

### **Towards a network of amateur astronomers relying on an innovative telescope**

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### **ABSTRACT**

As soon as a new object is detected, it is important to collect as many observations as possible. Amateur astronomers should be given a paramount role for this task: they are split all over the world and eager to participate in a global effort.

In the paper, we describe an innovative design for an enhanced vision telescope that will make astronomy more popular and participative.

The scope can work in two modes: as an ordinary scope operated by the observer or in an automatic way, pointing in a given direction in the sky thanks to its field recognition algorithm and tuning the image recording parameters to provide optimal quality for refining the orbit of the newly discovered object.

Through this operating mode, the amateur observer scan still be looking at the sky through the scope eyepiece but they will not be in charge of its running.

A worldwide network of these smart, connected telescopes can thus be set up. Potential observers will receive alerts requesting to observe a given region of the sky at a given time. These alert messages will be compatible with the scope programming functions thus allowing a reliable running during the planned observation sequences.

This scenario will guarantee that relying on amateur astronomers does not hamper the quality of the observations needed to refine the orbit of any newly discovered NEA.

We will also discuss in the paper the possible use of this telescope for timing the occultation of a star by an NEA, in the way it is routinely organized by IOTA (International Occultation Timing Association) for main belt asteroids.