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USING SOCIAL MEDIA TO LOCATE AND TRACK ASTEROIDS

Abstract

Nations are investing millions of dollars in programs to locate and track asteroids that pose a threat to the Earth. I believe it can be done at a fraction of the cost. With the recent pass of DA 2012 14, the meteor explosion over the Chelyabinsk, Russia and the fireball over California, this is a hot topic that has captured the publics' imagination. This imagination has become a reality and I believe the time is right for public support on these very real threats. If the public could do something for the greater good, I believe they would and they have.

Thousands of amateur astronomers, including the author, have already stepped forward to support The Defense Advanced Research Projects Agency's (DARPA's) SpaceView program to find space debris. SpaceView adds each armature's telescope to a network, where it is remotely and automatically controlled from a central location. SpaceView will upgrade the telescope with the necessary hardware and software to bring the telescope up to search specifications. When SpaceView is not using the telescope, the astronomer benefits from having an improved, auto guided telescope. Working with amateur astronomers also removes the need for on-site employees further reducing cost. As a result, both parties benefit from this symbiant relationship.

I propose taking this a step further. Today, the average teenager can take a picture with a SmartPhone and have it automatically uploaded to social site like Facebook. Asteroid searching is simpler than finding NEO space debris. I urge an agency dedicated to the search for NEOs lead a Global effort where amateur telescopes are linked together and their images are automatically uploaded to a common site where the images can be processed by computer. The amateur's requirements are simple:

- An 8" or greater diameter telescope with "auto guiding" or "Go To" capability. - Site GPS coordinate and altitude. - A Charge Coupled Device (CCD) camera coupled to a telescope for prime focus imaging.

The Agency would provide the network connectivity and improvements. Centrally, the Agency would provide the change detection software that can stack and compare two or three images taken by each telescope over the course of an hour for a given region of space. The maturity of social networking, global infrastructure and astrophotography have made inexpensive asteroid detection feasible. Combining them reduces deployment costs when compared to traditional NEO search programs.