Prediction of imminent impactors: Announcement policy and need of follow-up observations

F. Bernardi[1], A. Milani[2], F. Spoto[2], and G. Tommei[2]

[1]SpaceDyS s.r.l., Cascina (PI), Italy
[2]Dep. of Mathematics, University of Pisa, Pisa, Italy

The detection of imminent impactors poses some delicate questions regarding the announcement policy. In fact, having very few observations, the impact probability computation is a difficult task and it strongly depends on:

- the intrinsic astrometric errors of the observations;

- the assumed population model;

- the minimum size of impactors.

We present a new web based automatic tool which computes the risk assesment within few minutes from the posting of new observations of a recently detected object on the MPC-NEOCP list. The aim of this imminent impactors tool is to raise awareness of the professional and amateur astronomical community on the possibility of the existence of an impact, within few days or hours, of objects posted on the NEOCP list of the MPC. Therefore astronomers can be triggered in a short time to follow these kind of objects, in order to improve the knowledge of the impact occurrence and location. It is important to stress that the minimal information from the observations provides a considerable number of spurious cases. This is a main difference with the classical impact monitoring activities of CLOMON2-NEODyS, because the need of a rapid response of the observers requires an automatic procedure while for CLOMON2 an operator decides if the output of the computation is reliable to be posted.

In this presentation we will discuss the methods to filter the reliable cases and the announcement policy that we want to implement in the NEODyS system, taking into account the need of a feedback from the community of scientists.