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Natural Hazards and Earth System Sciences
Discussions

# *Interactive comment on* "Brief communication: Vehicle routing problem and UAV application in the post-earthquake scenario" *by* Marco Cannioto et al.

**Anonymous Referee #1**

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General comments:

The brief communication with the title 'Vehicle routing problem and UAV application in the post-earthquake scenario' addresses the problem of finding the shortest survey path for a set of locations and UAVs in a post-disaster scenario. With the growing use of the UAV as main platform for such post-disaster surveys, the paper addresses an important problem related with the optimization of the use of such aircrafts. This optimization is both resource and time consuming, two critical factors in a post-disaster situation. The optimization is achieved using an optimization method denominated Simulated Annealing (SA) which aims for a global optimum instead of a precise local



optimum, reducing in this way, the computation time. The paper introduces the topic and the problem in a thorough way, considering it is a brief communication. The figures and tables shown illustrate well the results for the indicated objective. Conclusions are drawn based on the shown results.

Specific comments:

There is the need to point out the objective of the survey. While the cost of traveling from one point to the other is considered; there is no indication on the time taken to survey each building. The surveying time, per building, is important to consider, or at least address it in the paper. For example, given two points: a small school and a large hospital. To have an indication of the state of the building, these two places will need different times to be surveyed, hence influencing the global flight time. More critical if the objective is to have a thorough damage assessment of the building, hence needing oblique imagery and a greater amount of time for the survey.

Technical corrections:

The document, in general, is well written. Among others check line 18 and 19 for grammar/typos.

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