Reply on RC2

The paper deals with the optimisation of sensors for damage identification considering the temperature which is one of the main parameters that induce changes in structures. A method is proposed based on an objective function which is defined by using a support vector machine (SVM). Additionally, the presented experiment shows the importance of understanding the environmental conditions in structural health monitoring for reliable damage assessment.

The paper is well written and organised. The quality of the experiment is high, and the results are clearly presented, and the graphics are readable. The minor corrections are already made with the suggestions of the first reviewer. I would not suggest any other corrections.

The reviewer would like to ask if the proposed method is also applicable in the SHM systems where the structures are monitored continuously in the existence of temperature changes.	Yes, it can. The aim of this study is to establish a general framework to consider a certain environmental effect in the design process of a sensor system. After the sensor system is put into use, the healthy state data should be collected at different temperatures for a period of time firstly. Then, the continuously collected data can be used for robust feature extraction using the methods mentioned in the article. The time interval for extracting features should be set according to the regulations of the project. In addition, the algorithm used for damage identification can be adjusted according to specific requirements.
In other words, by using the proposed feature extraction methods, is it possible to detect sensitivities to the damage by using a set of measurements that have frequency variations caused by temperature?	Yes, it is. A set of healthy state measurements with frequency variations caused by temperatures can be used as a baseline to extract features. In fact, it is possible to remove temperature (or other benign) effects, even without temperature measurements. There is a very large body of work on this topic – data normalisation. However, this paper looks at a more fundamental problem; if the sensor network delivers robust data, there is much less work upstream in removing temperature effects etc.