**Dear Editors:**

We would like to submit the enclosed manuscript entitled “GNSS-based Displacement Detection Using Bayesian Inference for Deformation Monitoring”, which we wish to be considered for publication in “Mechanical Systems and Signal Processing”. No conflict of interest exists in the submission of this manuscript, and the manuscript is approved by all authors for publication. I would like to declare on behalf of my co-authors that the work described was original research that has not been published previously, and not under consideration for publication elsewhere, in whole or in part. All the authors listed have approved the manuscript that is enclosed.

This paper proposes a novel displacement detection approach with the purpose of identifying and extracting displacement from GNSS kinematic positioning. Specifically, we use the Bayesian inference model to obtain the displacement change time from the coordinate time series of GNSS kinematic positioning. Firstly, the Bayesian model for displacement detection is presented. Then, experiments were carried out to verify the feasibility and effectiveness of the proposed method. Finally, the main issues of the proposed method are discussed. I hope this paper is suitable for “Mechanical Systems and Signal Processing”.

We deeply appreciate your consideration of our manuscript, and we look forward to receiving comments from the reviewers. If you have any queries, please don’t hesitate to contact me at the address below.

Corresponding author:

Name: Liang CHEN

E-mail: l.chen@whu.edu.cn，

Thank you and best regards.

Yours sincerely,

Nan SHEN

nanshen@whu.edu.cn