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| **Dr. Qiushi Chen**  Assistant Professor  GLENN DEPARTMENT OF  CIVIL ENGINEERING  Clemson University  109 Lowry Hall  Clemson, SC 29634  **P** 864-656-3300  **F** 864-656-2670  qiushi@clemson.edu | October 25, 2015  Dear Dr. Farhat:  We are very excited to submit our manuscript titled “**A Cartesian Parametrization for the Numerical Analysis of Material Instability**”, for the exclusive consideration of publication as an article in International Journal for Numerical Methods in Engineering. The manuscript is co-authored by Dr. Mota, Dr. Foulk, and Dr. Ostien from Sandia National Laboratories; and Mr. Lai and myself from Clemson University,  In this manuscript, we propose a new Cartesian parametrization for the numerical resolution of material stability analysis in solid mechanics problems. Compared to existing common and uncommon parametrizations used in numerical stability analysis, the proposed Cartesian parametrization demonstrated superior performance in terms of both computational efficiency and robustness. Moreover, the proposed method has no restrictions on the symmetry of the material tangents and can be applied to both small- and finite-deformation problems.  Thank you for your consideration of our work. Please address all correspondence concerning this manuscript to me (Qiushi Chen, 864-656-3330, [qiushi@clemson.edu](mailto:qiushi@clemson.edu)).  Sincerely,  Qiushi |

*www.clemson.edu/ce*