Dear Editors ,

We submit the manuscript having title:” Preliminary study of an ancient earthquake-proof construction technique monitoring by an innovative structural health monitoring system.”, the authors are: Carmelo Scuro, Domenico Luca Carnì, Francesco Lamonaca, Renato S. Olivito and Gabriele Milani

The manuscript is an extended version of a conference papers presented during 2019 IMEKO TC4 METROARCHAEO in which the basis of this work is presented.

As improvements respect to the paper presented at the conference, in this paper are highlighted:

1. Has been implemented the literature criteria for the shear strength prediction of piers in order to justify the formulation of Turnšek and Čačovič used.
2. The experimental campaign was expanded with a new specimen tested until collapse. the lowering of the test machine was monitored by means of an LVDT transducer
3. A numerical model was created to simulate the test in order to start real-time analysis relating to the data recorded by the SHM system.
4. All the analytical and numerical results are in achievement with the experimental one.

Yours sincerely,

On behalf of all the authors

 Carmelo Scuro

Department of Physics

University of Calabria

*Address*: Viale P. Bucci, 17B - 87036 Rende, Italy

*Phone:* +39 0984 496948,

*E-mail:* *carmelo.scuro@unical.it*