Dear Editor,

Please find enclosed to this letter the article we have written for ACTA IMEKO. Major points of extension respect to the results presented at the MetroArcheo conference in 2019 include:

* The MetroArchaeo work has been extended more than 30%, as requested.
* The introduction has been extended. In particular, a paragraph explaining the novelty of this research has been added together with additional references to papers in the AE domain.
* An outline of the paper has been introduced, as requested by the journal’s guidelines.
* New Figures has been added or changed. Figure 3 has been changed in order to better illustrate the positioning of the AE sensors around one of the engines investigated during the study. The measurement system is shown in Figure 2.
* The results section has been reorganized and the explanations of the obtained AE signals and their interpretation has been improved.
* New results, including an additional figure (Figure 8) have been added in the Results section to support the discussion.
* A total of 21 references have been included. Considering that this study is the first applying AE to ancient engines of historical interest, no papers are available of similar researches performed by other groups.