Requirements for technical design of articles sent for publication in collections published by GS RAS

The text of the article should be typed on the computer in a Microsoft Word text editor (the format of the files is *.doc, *.docx) in Times New Roman font, 12-points in size of low-fat, single line spacing, to level on width, beginning of the paragraph is 10 mm indentation, the paper size is A4, the margins on the left, right, top and bottom are 25 mm. Bibliographic references are given in the form of numbers [1], [2], etc. in the order of the mention in the text. There are no forced transfers. There is no page numbering. To indicate the range, a dash is used (for example, 3–10 *Hz*, 1996–1999, west–south-west).

The text of the article up to five pages in size, including drawings, is provided electronically, including the title and abstract in Russian and English in 4–6 lines. The list of authors includes: full name, full and abbreviated name of the organization – place of work, city, country, academic degree, position, e-mail.

The designations of variables and units of measure in the text and formulas are typed in italics (Greek letters, as well as subscript and superscript indices are in direct typeface). The decimal separator is a period. Formulas are typed using the formula editor built into Microsoft Word. The units of measurement in the text and formulas should be in Cyrillic. The formulas are numbered on the right, in parentheses.

Figures should be embedded in the text of the article (the position of the picture is "in the text" or in the table with invisible borders) and, in addition, presented as separate files. The format of the picture files is original or *.tiff, *.gif, *.jpg, *.png, *.bmp, *.cdr with a resolution of at least 300 dpi. The variables are shown in italics, the separator of the numerical ranges is a dash as in the text, in the figures.

All the notations, numbers and letters must be clearly distinguishable in the figure inserted in the text of the article, their size should not be less than 8-point. Lines and other elements of the drawing must be clear, not blurred, not distorted by the compression of the picture.

Color drawings for publication are not accepted.

The editorial committee pays special attention to the graphic material and reserves the right to reject articles with drawings of unsatisfactory quality.

Example of publication materials for publication

FULL SYSTEM CALIBRATION OF DIGITIZED SKM AND SM-3 SEISMOMETERS

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Abstract. Many seismic stations currently operating in the republics of the Former Soviet Union (FSU) continue to operate older electro-mechanical seismometers with digital recorders [1] .....

Аннотация. На многих сейсмических станциях в республиках бывшего СССР продолжают использовать устаревшие электромеханические сейсмометры совместно с цифровыми регистраторами [1] ....

Introduction

The key to the calibration procedure we have developed is the addition of a precision laser position measurement system to track mass position changes of the seismometer.....

Theory

For all mechanical seismometers that are pendulum based, it is possible to relate the displacement of the mass relative to ground motion at any arbitrary frequency, ω, if the free period frequency ω_o and the damping ratio, h, are known, using the equation:

$$Amp = \frac{\omega^2}{\sqrt{\left(\omega_o^2 - \omega^2\right)^2 + \left(4h^2\omega^2\omega_o^2\right)}}.$$

.....

Calibration Coil

To generate a full system calibration, it is necessary that the seismometer be equipped with a calibration coil. As our SM-3 and SKM seismometers were not equipped with calibration coils, we fabricated them and mounted them in such a way as to impart motion onto the pendulum arm of the seismometer (Fig. 1).

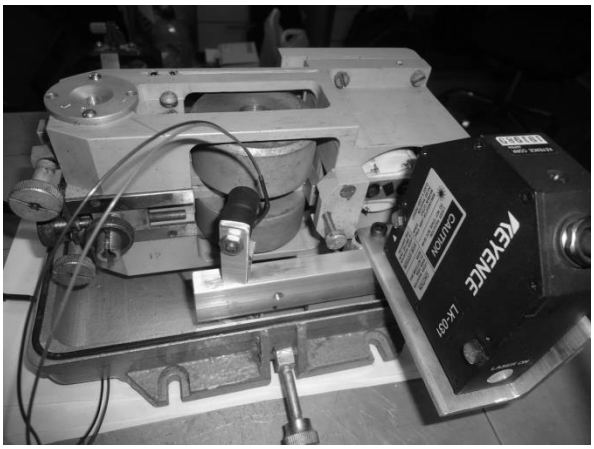
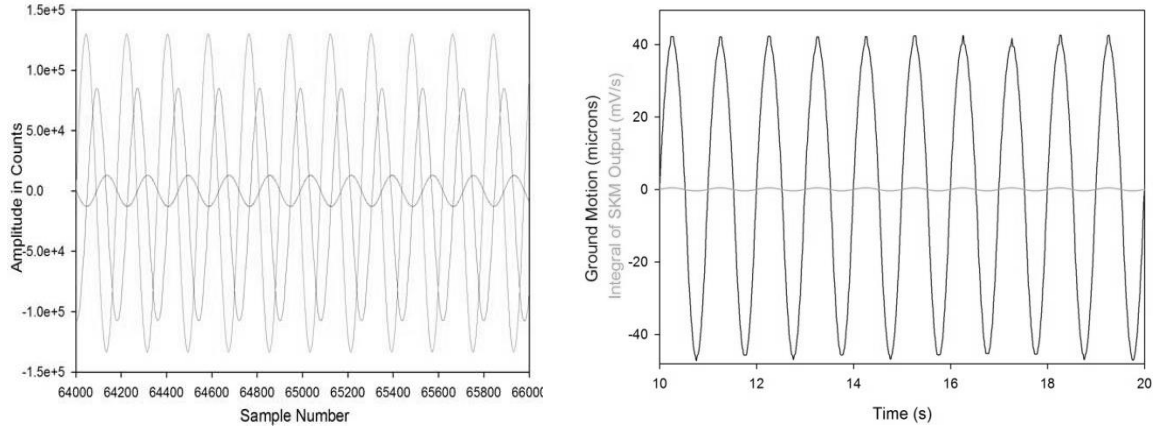


Fig. 1. **The LK-031 laser and calibration coil mounted on an SM-3 seismometer**

..... Fig. 2 a is a plot showing the relation between the outputs of the seismometer, laser, and function generator....



a **b**

Fig. 2: a **– Plot showing the relation of the function generator used as the calibration coil input (high amp.), mass displacement (mid. amp.) and seismometer output (low amp.) from our test SKM instrument;**
b **– Comparison of ground motion (high amp.) determined from coil position by the laser system and the integral of the digitized output signal of the SKM seismometer (low amp.)**

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Acknowledgments

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