

Dear Editor of the Acta IMEKO,

I have prepared an improved and extended version of the paper 'Periodic signal parameters' estimations from random sampling measurements under noncoherent sampling condition' presented in the XXI IMEKO TC-4 Symposium in Budapest, 2016. The original paper was selected by the IMEKO TC4 Board for eventual publication in Acta IMEKO in an extended and updated version.

Manuscript has a new title 'Estimation of signal component from random equivalent and non-coherent sampling measurements' and it is submitted for possible publication in the Journal Acta IMEKO. Presented is the procedure how to estimate the periodic signal parameters in the case of random equivalent time sampling and under non-coherent sampling condition where randomization of sampling intervals shapes the noise floor in the sampled spectrum with addition of spectral leakage. To achieve the lowest estimation errors the non-parametric interpolated DFT estimation of frequency should be used first for detection of the signal component and after that iterative 4-parametric sine-fit algorithm should be used for other parameters. The relative number of random samples has to be at least 0.1.

Corrections were made to improve intelligibility of the paper compared to the XXI IMEKO TC-4 Symposium 2016 paper. Here are following changes and additions made during manuscripts preparation for the Acta IMEKO journal:

1. The title of paper has been changed from 'Periodic signal parameters' estimations from random sampling measurements under noncoherent sampling condition' to 'Estimation of signal component from random equivalent and non-coherent sampling measurements' to emphasize the problem of general random equivalent sampling where pure random sampling is the worst sampling situation for the signal component estimation.
2. The abstract, the introduction and the conclusions have been rewritten.
3. The new parts are in the first chapter where problem of the random equivalent sampling is explained and its effect on the spectrum, and in the second chapter with added text and Fig. 11 for comparison of random equivalent and pure random sampling.
4. Altogether 5 new Figures (Figs. 1-4, and 11) were added with suitable text to improve intelligibility of the paper.
5. Three references were added ([1], [5], and [6]) and the XXI IMEKO TC-4 Symposium 2016 paper has been cited [11].

Author certify that the submission is original work and is not under review at any other publication. Thank you in advance for considering the work.

Sincerely,

Dušan Agrež

University of Ljubljana
Faculty of Electrical Engineering
Trzaska 25, 1000 Ljubljana, Slovenia
Phone: +386 1 4768 220,
Fax: +386 1 4768 426,
E-mail: dusan.agrez@fe.uni-lj.si