

Eigen-coordinates: New method of analytical functions identification in experimental measurements

Nigmatullin R.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

A new method of identification of the analytical curves describing experimental data is suggested. It is based on the presentation of the wide class of analytical functions in the so-called eigen-coordinates where the function takes the form of sloping lines. The slopes are related to the initial set of fitting parameters and can be found from the linear least square procedure. The method suggested has been checked in detail on the identification of a free induction signal and main statistical distributions which are widely used in physics, technics and applied statistics. The eigen-coordinates for some relaxation functions have been obtained as well. © Springer-Verlag 1998 Printed in Austria.
