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Thesis Title : Identification of Second Order Transfer Function
by Orthogonal Function
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Abstract

The purpose of the research is to construct the program to find out the second order transfer function of non-linear system by orthogonal method. The procedure of the finding are : the first step was to construct the program by C⁺⁺ language, the second step was to test the program with the MATHEMATIC MODELING THEORY (VOLTERRA SERIES) and the last step was to use this program with the signal of nonlinear system (real system). The results shows that the computation use many terms of orthogonal functions. This causes a problem when the computer does not have enough memory unit, there is also round off error in the step of finding the solution of large complex number matrices. Because of all these problems, the convergence test could not be made. However, the results from using 121 orthogonal terms was satisfied.