



Simulation-Model Reference Adaptive Identification of a Nonlinearly Parameterized Process

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The need for accurate process models is obvious for Model Predictive Control applications, but the need exists in other advanced control applications, as well, where characterizing knowledge of the controlled process is embedded in the control algorithm.

In this talk, a real-time technique is described for estimating time-varying parameters of nonlinearly parameterized Multi-Input, Multi-Output (MIMO) processes in which an adjustable nonlinear simulation model is used in a model-reference adaptive configuration where the reference model is the actual process. The technique relies on simulating the gradients of the model outputs with respect to parameter changes in the present operating region of the process. It is designed to function in both the transient and steady states with no requirement for persistent excitation and a commissioning mode is described for initial estimation of parameters that remain constant. Estimation of the parameters of a 3-phase induction motor was chosen as an example application.

Mr. Muller has over 25 years of experience in systems engineering, analysis and control of dynamic physical systems with emphasis in advanced control applications. His experience includes employment with Westinghouse at the Science & Technology Center, Westinghouse Nuclear Automation and at The Electro-Mechanical Division Tech Center (now The Curtiss-Wright Electro-Mechanical Corporation, Tech Center). He is a Professional Engineer licensed in PA, MA and NY. He has M.S. and Ph.D. degrees in Electrical Engineering majoring in control theory from Syracuse University and a B.S. degree in Mechanical Engineering from Lafayette College.

Place: Westinghouse Energy Center, Monroeville
Date: January 26th
Social: 6:30 PM
Program: 7:00 PM

This meeting will be of particular interest to the members who belong to the PES and IAS societies. For more information or to register, contact Dr. Kal Sen at (724) 696-1611 or by email at senkk@ieee.org by January 19th.

Directions: From downtown Pittsburgh, take the Parkway East Outbound to Exit 14A (Monroeville). Cross the traffic light (Business 22) and proceed on Rt. 48 South for two traffic lights. Turn left onto Northern Pike. Proceed East ~ 0.2 miles and turn right at the first traffic light onto Westinghouse Drive. Travel 0.7 mile to the three flags where the main entrance is located. Parking in the evening will be plentiful in the large area in front of the building. Enter the main entrance. Check with the security inside. You will be directed to the proper auditorium for the presentation.

From PA Turnpike, take Exit 57 (Monroeville). After the toll plaza, get in the left lane (Business-22). At the first light, turn left on to Rt. 48 South and follow the directions shown above.

Nomination of Officers for 2005



The Officer Slate for the 2005 year has been set. The following individuals have agreed to be listed as nominees for the 2005 IEEE Pittsburgh section. Any other member that would like to be considered for one of these positions should contact Harry Hagerty at (412) 492-0943 x226 or hhagerty@ieee.org.

Elections will take place at the ExComm meeting on January 20, 2005 at Point Park College.

To vote by mail, please return a written ballot to:

IEEE Pittsburgh Section
337 Fourth Ave.
Pittsburgh, PA 15222

You may also attend the ExComm meeting and vote in person, or vote by email to Harry Hagerty at hhagerty@ieee.org.

Section Chair

___ Kalyan Sen
___ Write In _____

Secretary

___ John Twigg
___ Write In _____

Vice Chair

___ Ralph Sprang
___ Write In _____

Treasurer

___ Dave Vaglia
___ Write In _____

Life Member Activities

This meeting was originally announced as a December meeting but it has been rescheduled as shown below due to extended jury duty by one of the speakers.

Please join the Life Member Chapter for an afternoon of information and lunch. The afternoon will start with a pizza lunch, followed by a tour of the George Westinghouse Museum. If you have not been to the museum, or it has been a while since you visited it, you will see a great display of invention and history all brought to you by George Westinghouse, and the company he founded right in this town. Mr. Ed Reis, director of the museum, will be your tour guide, and is a wealth of information.

The second presentation will be Westinghouse Nuclear Programs - History & Current Events. Mr. Howard Brushi, will discuss the history of the nuclear power industry, current new designs that place emphasis on standardization, and the status of pebble bed reactor technology. Mr. Brushi is Executive Consultant for Westinghouse Electric, former Senior VP & CTO Energy Systems Business Group.

Place:	The Board Room George Westinghouse Museum Wilmerding, PA
Date:	January 17 th
Lunch:	1:00PM
Program:	1:30PM

The meeting is sponsored by the Life Member Chapter, but is open to all IEEE members. Pizza will be provided by the chapter, with soft drinks complements of the Museum.

An email will be sent to all LMs on the Chapter's email list. All other LMs in the section will receive a notice by mail. This will be the last chapter mailing. All subsequent events will be announced by email and also listed in the Pittsburgh Section Bulletin.

For more information or to make sure there is enough pizza for you, please contact Bob Grimes at r.d.grimes@ieee.org. Directions can be found at www.georgewestinghouse.com/location.html.



2005 PES Chapter Outstanding Engineer Award

The Power Engineering Society of IEEE Pittsburgh Section is seeking nominations from local PES members for the 2005 PES Chapter Outstanding Engineer Award. The Outstanding Engineer Award is designed to recognize members of IEEE/PES Pittsburgh Chapter who have made outstanding contributions to their profession through their technical abilities. The nominees will be judged on the basis of their activities during the past two calendar years (2003 and 2004). Please submit your nominee or nominate yourself, by providing the following information:

Name ? IEEE Membership Number ? IEEE Grade ? Professional Affiliation ?
Importance of technical contributions ? Patents, Proprietary Designs, Papers,
Technical Presentations ? Description and years of technical distinction and
responsibility ? Service to IEEE ? Service to the engineering profession outside
IEEE ? Recognition through other honors.

Interested members should submit their nominations to the Committee Chair, Harry Hagerty, at hhagerty@ieee.org no later than January 15th. The decision of the Award Committee will be considered final. The winner will be acknowledged at the History Dinner in the spring of 2005.

2004 PES Chapter Outstanding Engineer Award Announced

The PES Pittsburgh Chapter has announced that Dr. Kalyan K. Sen is the recipient of the 2004 PES Chapter Outstanding Engineer award.

Mr. Sen has been instrumental in reviving the PES & IAS Chapters of the IEEE Pittsburgh Section using his leadership skills and dedication as the Chapter Chair. He has encouraged the IEEE members of the Pittsburgh Section to volunteer for conducting PES/IAS meetings by establishing a rapport with the members and setting an example of how to run the meetings effectively. He is a Senior Member of the IEEE, has been an Editor and a Reviewer of the IEEE Transactions on Power Delivery, and a Distinguished Lecturer of the Power Engineering Society. He received the Outstanding Technical Committee Prize Paper Award from the Power Engineering Society. He was issued four patents relating to Power Flow Control in Electrical Transmission Lines. He has published four articles (three in the IEEE Transactions on Power Delivery and one in the PES Conference Proceedings) and made eleven Power Flow Control related presentations in five countries.

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