



PSERC WEBINAR

Synthesis of Load Model Parameters Using Point on Wave Measurements

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This webinar describes a novel method to synthesize load and feeder models using instantaneous voltage and current measurements, obtained at the distribution level, from disturbance events. The developed load and feeder models are comprised of single-phase loads, three-phase loads, impedance loads, distribution transformers, and distribution line segments. The load composition of the synthesized models and the motor load parameters are determined using a non-linear least-squares algorithm integrated with an electromagnetic transient (EMT) analysis tool PSCAD. The efficacy of the proposed algorithm is examined for feeders at different physical locations and with distinctly varied load characteristics. Using this approach, parameters of the motor loads have been obtained within a fixed set of bounded values for each corresponding parameter. The ability of the proposed feeder and load models to capture severe fault-induced voltage recovery events (FIDVR) has also been discussed here. The work reported in this webinar was conducted under PSERC Project S-80 and a project supported by Salt River Project.

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[LINK TO WEBINAR](#)

2:00-3:00 P.M. EST

(11:00-12:00 P.M. PST)

Vijay Vittal received the B.E. degree from the B.M.S. College of Engineering, Bangalore, India, in 1977; the M. Tech. degree from the Indian Institute of Technology, Kanpur, India, in 1979; and the Ph.D. degree from Iowa State University, Ames, in 1982 all in electrical engineering.

From 2005-2020 Dr. Vittal served as the Director of the PSERC. In 2005, he joined Arizona State University where he is a Regents' Professor, the Ira A. Fulton Chair Professor, and the ASU Foundation Professor in Power Systems Engineering at the School of Electrical, Computer and Energy Engineering. During 1993-1994, he was the Program Director of the Power Systems Program at the U.S. National Science Foundation. In 2003, he was elected to the U.S. National Academy of Engineering in 2004. From 2005-2011 he served as the Editor in Chief of the IEEE Transactions on Power Systems. In 2013, he was awarded the IEEE Herman Halperin T&D Field Award. In 2018, he received the Utility Variable-Generation Integration Group (UVIG) Achievement Award and the IEEE Power and Energy Society Prabha S. Kundur Power System Dynamics and Control Award. In 2019, he was awarded the IEEE Power and Energy Society Prize Paper Award. In 2021, he received the Indian Institute of Technology, Kanpur, Distinguished Alumnus Award.

