



Analysis, Modeling and Stability of Fractional Order Differential Systems 1: The Infinite State Approach

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DESCRIPTION

This book introduces an original fractional calculus methodology ('the infinite state approach') which is applied to the modeling of fractional order differential equations (FDEs) and systems (FDSs). Its modeling is based on the frequency distributed fractional integrator, while the resulting model corresponds to an integer order and infinite dimension state space representation. This original modeling allows the theoretical concepts of integer order systems to be generalized to fractional systems, with a particular emphasis on a convolution formulation.

ABOUT THE AUTHOR

Jean-Claude Trigeassou is Honorary Professor at Bordeaux University, France, and has been associated with the research activities of its IMS-LAPS lab since 2006. His main research interests include the modeling of fractional order systems, based on the infinite state approach.

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