



# Hydrodynamics of Gas-non-Newtonian Liquid Flow and ANN Predictability

By Sudip Kumar Das

LAP Lambert Academic Publishing Jun 2013, 2013. Taschenbuch. Book Condition: Neu. 220x150x4 mm. Neuware - Experimental studies on gas-non-Newtonian liquid flow through a horizontal pipeline and the application of artificial neural network (ANN) are a field of study which had been researched extensively in the past few years. This book represents the empirical correlations in terms of various physical and dynamic variables of the system developed by the authors to predict two-phase frictional pressure drop and gas holdup. The Multilayer Perceptrons (MLP) trained with three different algorithms, namely: Backpropagation (BP), Scaled Conjugate gradient (SCG) and Levenberg-Marquardt (LM) had been used for the present analysis. Four different transfer functions are also used in a single hidden layer and a linear transfer function for output layer for all algorithms. The book is an attempt to shed light towards the predictability of two-phase frictional pressure drop and gas holdup using both empirical correlation and ANN. This book will be useful for the undergraduate, postgraduate and research students of various Engineering disciplines, design and process engineers in process industries. 72 pp. Englisch.



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