# RECONSTRUCTION OF BIFURCATION DIAGRAM
# OF NONLINEAR DYNAMIC SYSTEMS BY STATIONARY
# AND NONSTATIONARY TIME SERIES

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The problem of bifurcation diagram reconstruction using stationary time series set and nonstationary time series in the absence of prior information was considered. Nonlinear dependence of reconstructed model parameters on regime of dynamic system behavior was demonstrated by the example of Lorenz system. Piece-wise-linear approximation of reconstructed model parameter space was proposed in order to reconstruct the bifurcation diagram. Period doubling route to chaos behavior in experimental data of phase-transition processes accompanying tellurium melting was revealed.