

Using symbolic dynamics to measure the complexity of systems

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The study of nonlinear dynamical systems, in particular the study of time series, is a current topic in financial systems and in control systems of chaotic systems: mechanical, climatic, electronic, robotic, decision, biological, neural, etc. Describing the behavior and measure of the complexity of time series, obtained from non-linear systems, systems involving several variables or from numerical methods, represent a great challenge. The approach presented here uses symbolic dynamics, to overcome this difficulty. The proposed method was applied in melanocytic lesions to compare and classify different type of melanocytic lesions.