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Abstract	:	<p>Measuring complexity statistical indicators is a key method to analyze and characterize dynamical systems. In this work, we perform a comparative analysis among the López-Ruiz, Mancini & Calbet complexity indicator and the largest Lyapunov exponent for the convection problem of a viscoelastic fluid in a porous medium with feedback control based in an Oldroyd carrier liquid through a four-dimensional generalized Lorenz system. With both indicators can be distinguished from chaotic to periodic states. We perform intensive numerical simulations with 4×10^6 in the space parameters, finding good agreement between them, such that difference is close to 2%. We have also detected that the computing time is much faster in the case of complexity indicator than for Lyapunov exponents. Finally, we have also studied the effect of the initial conditions in the coexistence states, encountering multistability.</p>