Analyzing a Tourism System by Bifurcation Theory

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Abstract : Tourism has a direct impact on the national revenue for all touristic countries. It creates work opportunities, industries, and several investments to serve and raise nations performance and cultures. This paper is devoted to analyze dynamical behaviour of a four-dimensional non-linear tourism-based social-ecological system by using the codimension two bifurcation theory. In fact we investigate the cusp bifurcation of that. Implications of our mathematical results to the tourism industry are discussed. Moreover, profitability, compatibility and sustainability of the tourism system are shown by the aid of cusp bifurcation and numerical techniques.

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