

Abstract

The dynamics of two uncoupled distinct Chua circuits driven by a common direct current voltage is explored experimentally. It was found that, with increasing current intensity, the dominant frequencies of these two Chua circuits will first vary at different speeds, approach an identical value for a certain current intensity and then separate. Techniques such as synchronization index and phase difference distribution were employed to analyze the phase coherence between these two Chua circuits.

Keywords: Chua circuit, phase synchronization, synchronization index.