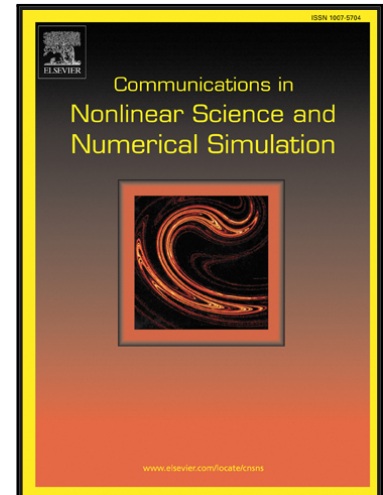


## Accepted Manuscript

Sufficient conditions for asymptotic stability and stabilization of autonomous fractional order systems

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**Highlights**

- Initial value problems of autonomous linear and nonlinear fractional order systems are formulated for commensurate and incommensurate fractional order cases.
- Several sufficient conditions for the asymptotic stability criteria of linear systems are formulated.
- A theorem for the local stability of the equilibrium points of nonlinear system is proposed.
- The stabilization criteria of autonomous nonlinear fractional order systems via linear feedback control technique is proposed.
- Asymptotic stability and stabilization of equilibrium points of fractional order Lorenz system are discussed.
- Some analytical conditions for the asymptotic stabilization of fractional order Lorenz system are given.

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