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Tian Ma, Department of Mathematics, Sichuan University, Chengdu, Sichuan, Peoples Rep of China, and **Shouhong Wang*** (showang@indiana.edu), Department of Mathematics, Indiana University, Bloomington, IN 47405. *Dynamic Transitions and Stability for Equatorial Flows*.

We examine in this talk the dynamical transitions and stability of equatorial flows, leading to a new description of El Nino-Southern Oscillation. The study is based on a newly developed dynamic transition theory for nonlinear systems. (Received February 12, 2008)