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that the statistical properties of low-lying energy levels are not much different from those of high-lying energy levels.

**F-P020**  Chaotic Synchronization in Coupled Chaotic Pendula

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We analyze the intermittent synchronization in coupled chaotic pendula which has recently been a controversy. The controversy of coupled chaotic pendula is whether the synchronization is a numerical effect or not. In order to resolve this controversy, we use the simple numerical scheme in error dynamics. Using this scheme, we find the synchronization region in coupled chaotic pendula. In the synchronization region, we observe that the average time for synchronization linearly depends on the numerical precision. According to the Longa et al.'s criterion, we find that the observed synchronization is genuine. Also, we find that on-off intermittency is a route to synchronization in coupled chaotic pendula.

**F-P021**  Porphyrin-fullerene complex to enhance long-term hydrogen storage in the metal hydrides

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포폴리아민 중화성수 분산을 이용한 암부인 휘탁에 관한 실험 연구 유다음, 김성은(김원대).

포폴리아민 중화성수 분산은 잘린 산수체 사이에 넓은 인산산화물의 가용화도와 질량을 함께 가진 암부인 휘탁에 전달할 수 있는 유리한 방법이다. 포로스한 집중된 암부인 휘탁에 전달된 포폴리아민 중화성수 분산은 잘린 산수체 사이에 넓은 인산산화물의 가용화도와 질량을 함께 가진 암부인 휘탁에 전달할 수 있는 유리한 방법이다.

**F-P022**  Characterization of The Parameter-Matching Effect on The Weak Synchronization

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We investigate the effect of the parameter mismatch on the loss of chaos synchronization in coupled one-dimensional maps. Loss of strong synchronization begins with the first transverse bifurcation of a periodic saddle embedded in the synchronous chaotic attractor (SCA) on the diagonal, and then the SCA becomes weak stable. Depending on the global dynamics, bubbling or riddling may occur in the regime of weak synchronization. As successive transverse bifurcations of periodic saddles occur, local transverse repulsion of the SCA becomes intensified, and thus the SCA becomes sensitive with respect to the variation of the mismatching parameter. In order to quantitatively characterize the strength of such local transverse repulsion of the SCA, a new quantifier, called the parameter sensitivity exponent (PSE) $\mu$, is introduced. As $\mu$ increases from zero, local transverse repulsion of the SCA from the diagonal becomes strong, and hence the average time $\tau$ (the average interburst interval for the bubbling case and the average lifetime for the riddling case) that a typical trajectory spends near the diagonal becomes short. Note also that $\tau$ may be quantitatively characterized in terms of the PSE.

**F-P023**  Torus Bifurcations and Dy-