

Figure 1: Variations of the originally positive and null Lyapunov exponents of the coupled system (4-1) for $k_1 = 0$ and $k_2 \geq 0$.

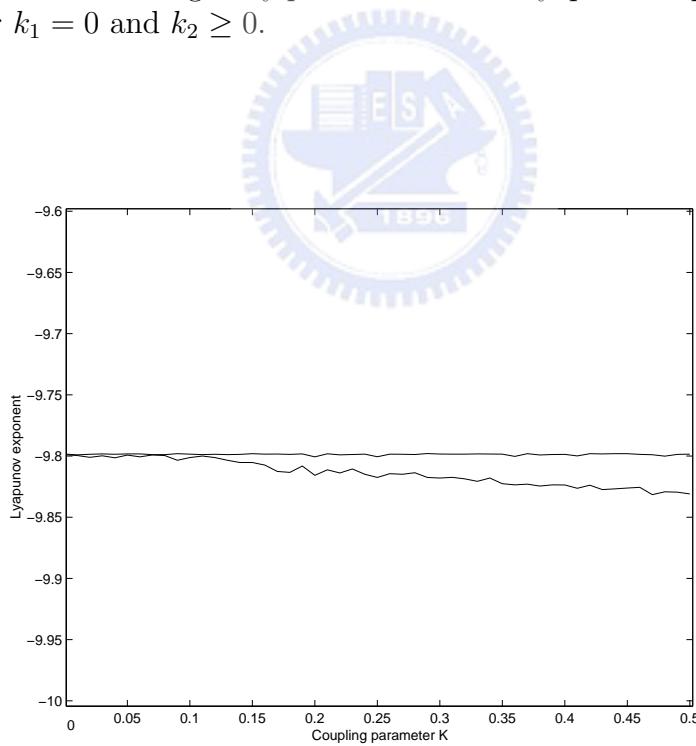


Figure 2: Variations of the originally negative Lyapunov exponents of the coupled system (4-1) for $k_1 = 0$ and $k_2 \geq 0$.

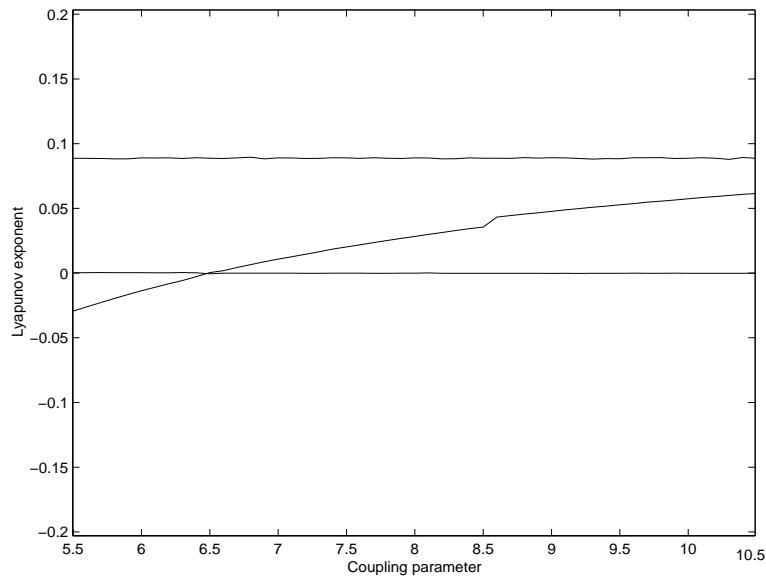


Figure 3: Variations of the originally positive Lyapunov exponents of the coupled system (4-1) for $k_1 = 0$ and $k_2 \in [5.5, 10.5]$.

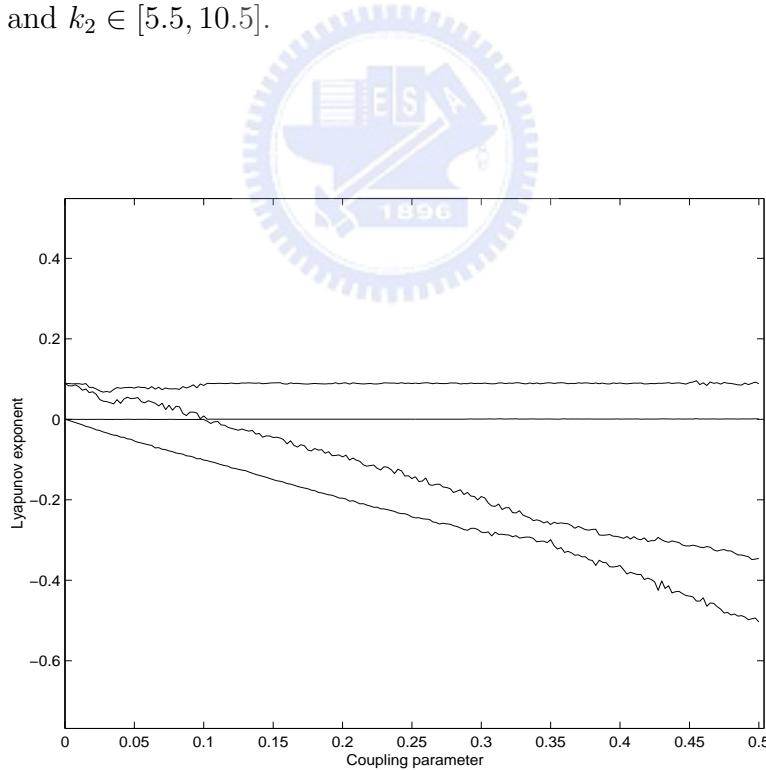


Figure 4: Variations of the originally positive and null Lyapunov exponents of the coupled system (4-1) for $k_1 = k_2 \geq 0$.

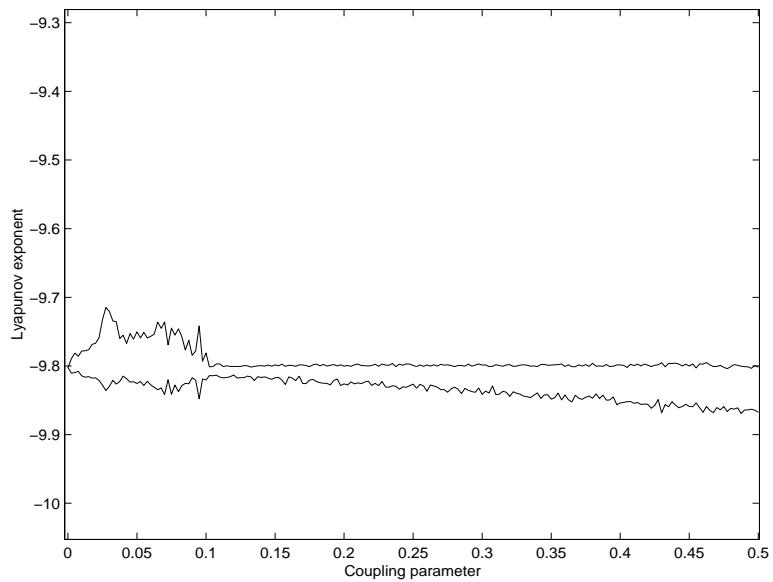


Figure 5: Variations of the originally negative Lyapunov exponents of the coupled system (4-1) for $k_1 = k_2 \geq 0$.

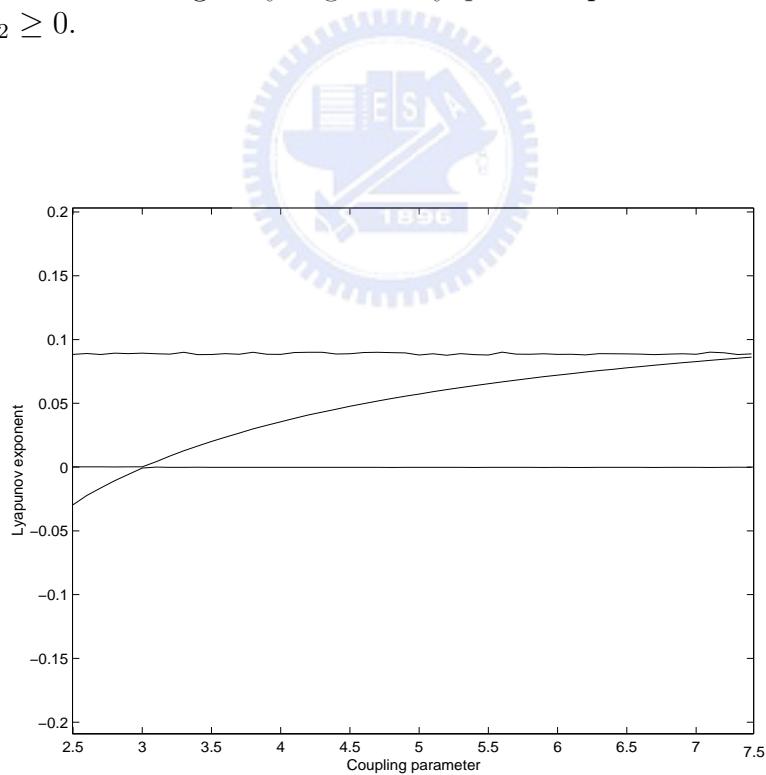


Figure 6: Variations of the originally positive Lyapunov exponents of the coupled system (4-1) for $k_1 = k_2 \in [2.5, 7.5]$.

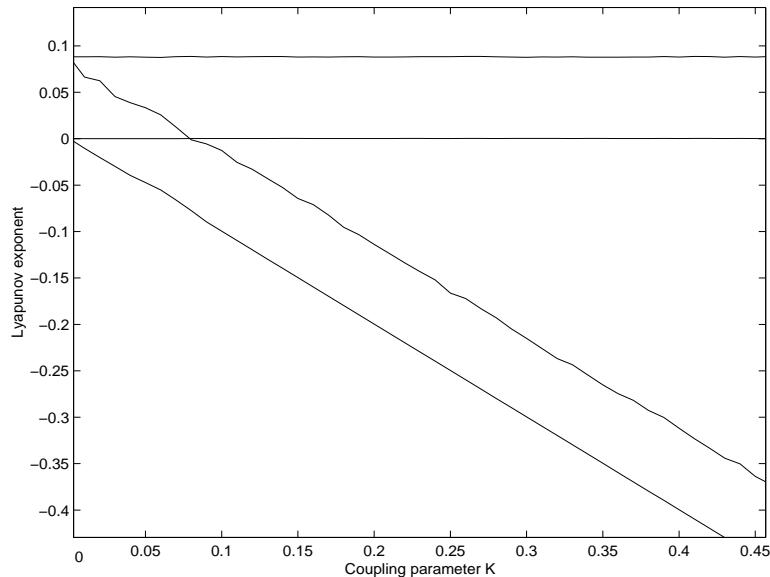


Figure 7: Variations of the originally positive and null Lyapunov exponents of the coupled system (4-2) for $k_1 = 0$ and $k_2 \geq 0$.

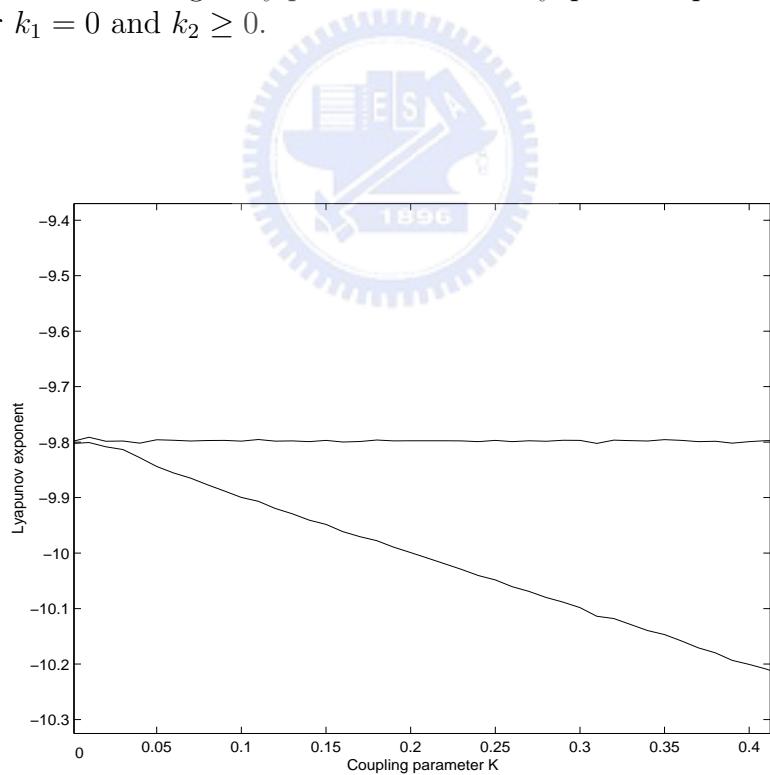


Figure 8: Variations of the originally negative Lyapunov exponents of the coupled system (4-2) for $k_1 = 0$ and $k_2 \geq 0$.

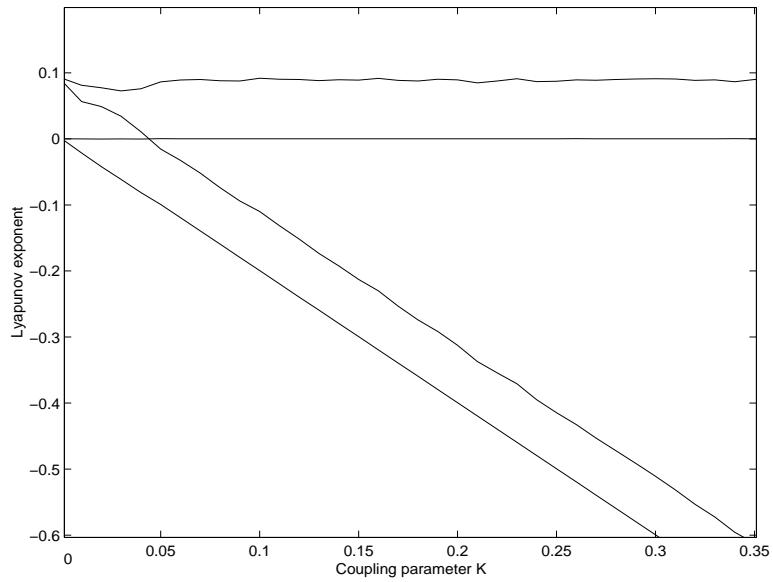


Figure 9: Variations of the originally positive and null Lyapunov exponents of the coupled system (4-2) for $k_1 = k_2 \geq 0$.

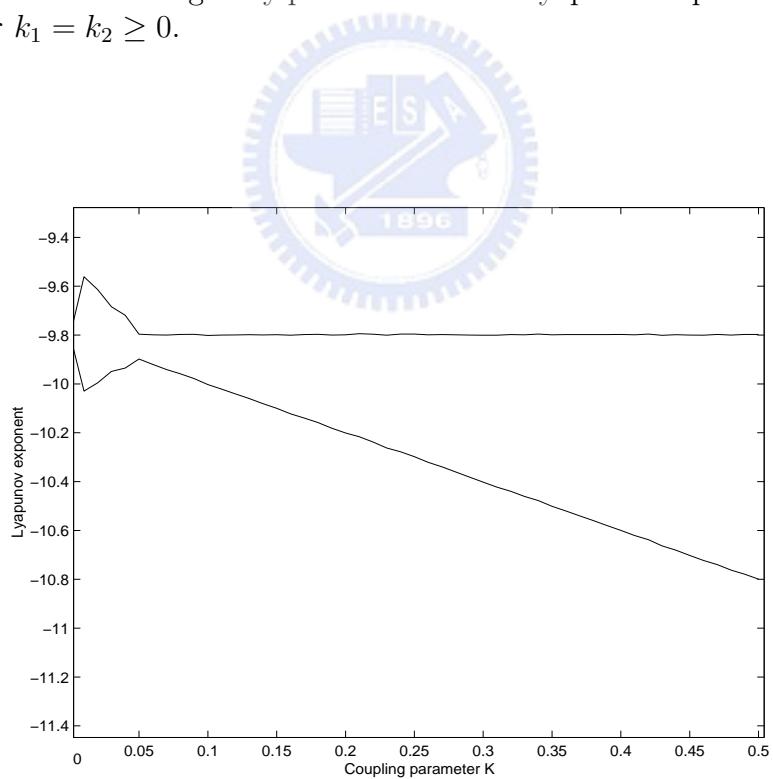


Figure 10: Variations of the originally negative Lyapunov exponents of the coupled system (4-2) for $k_1 = k_2 \geq 0$.

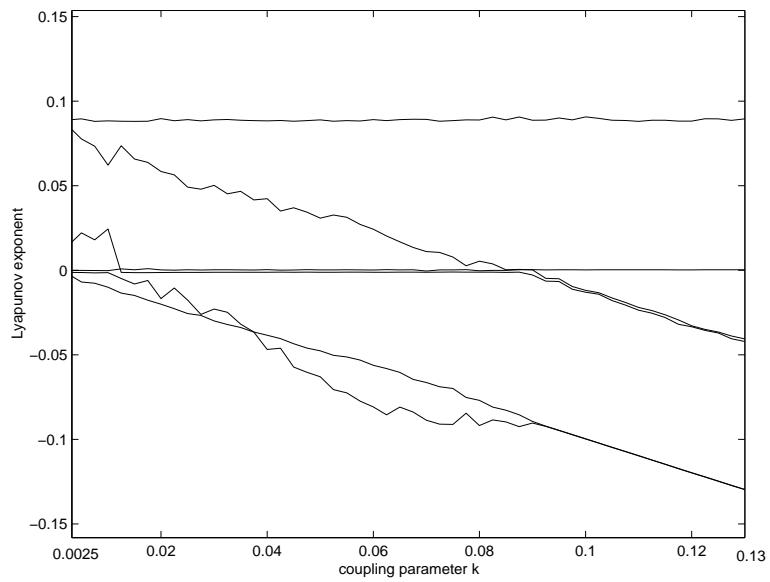


Figure 11: Variations of the positive and null Lyapunov exponents of the coupled system (4-3) for $k \geq 0$.

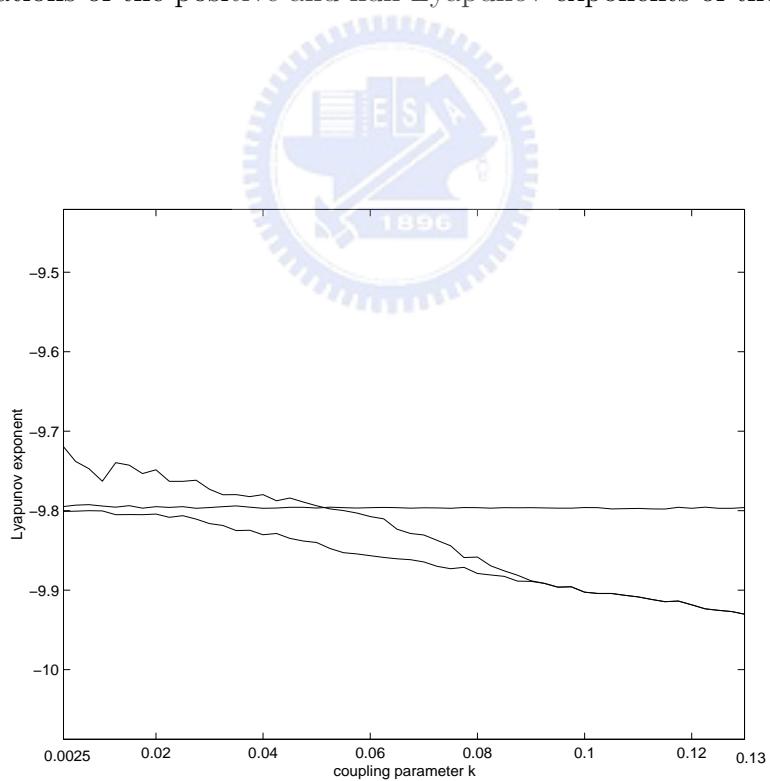


Figure 12: Variations of the negative Lyapunov exponents of the coupled system (4-3) for $k \in [0.0025, 0.13]$.

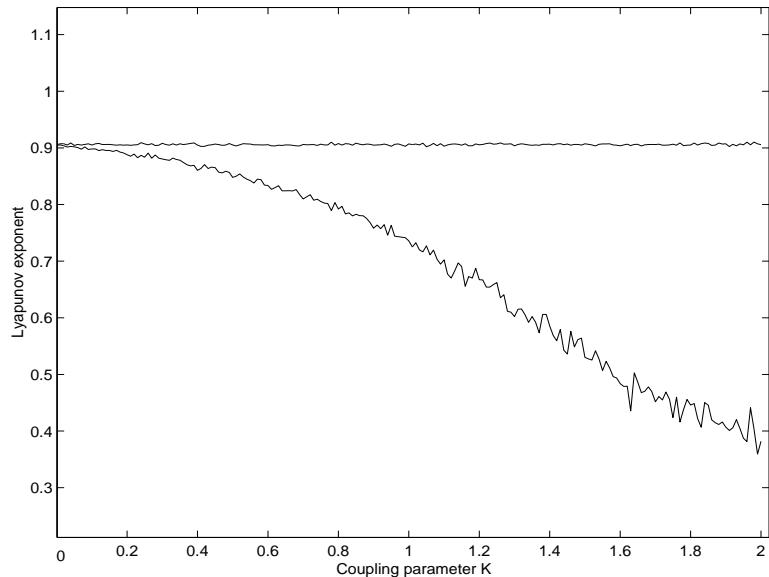


Figure 13: Variations of the originally positive Lyapunov exponents of the coupled system (4-4) for $k_1 = 0$ and $k_2 \geq 0$.

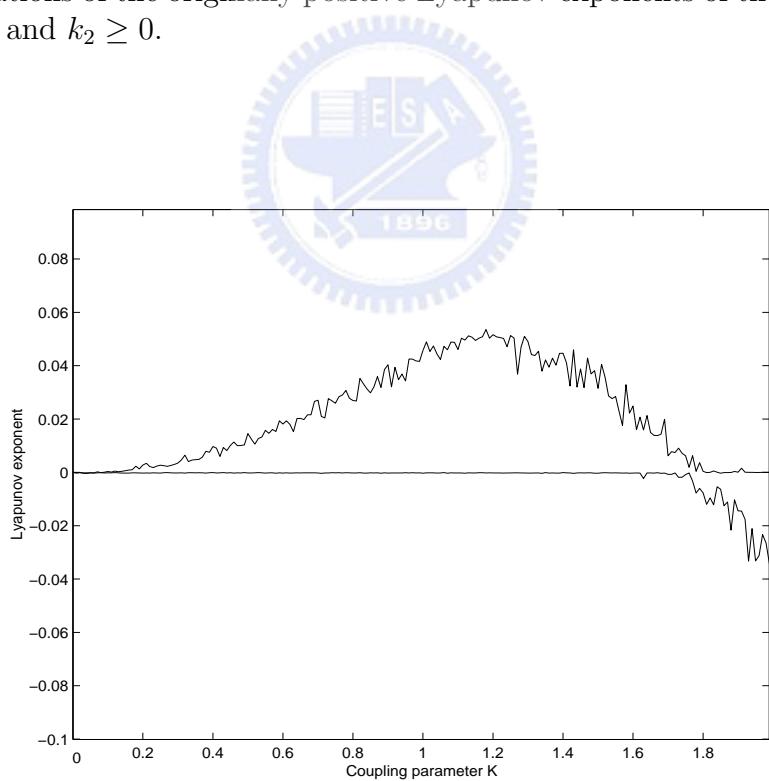


Figure 14: Variations of the originally null Lyapunov exponents of the coupled system (4-4) for $k_1 = 0$ and $k_2 \geq 0$.

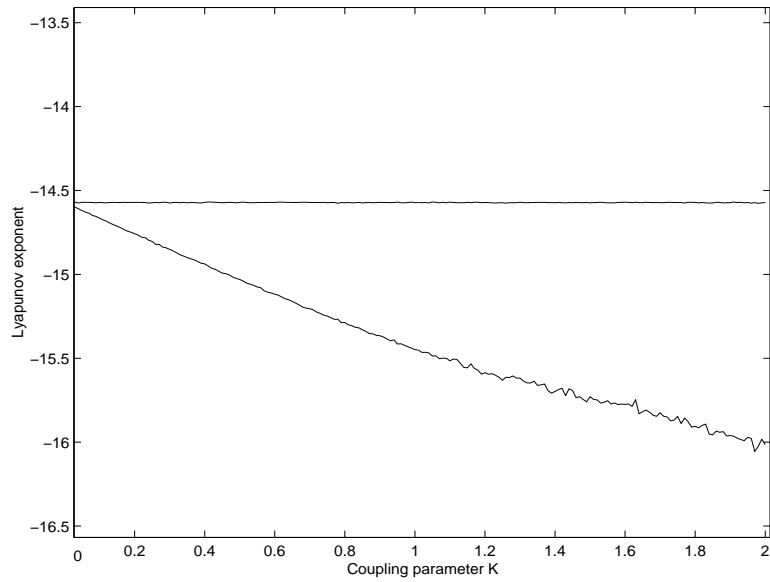


Figure 15: Variations of the originally negative Lyapunov exponents of the coupled system (4-4) for $k_1 = 0$ and $k_2 \geq 0$.

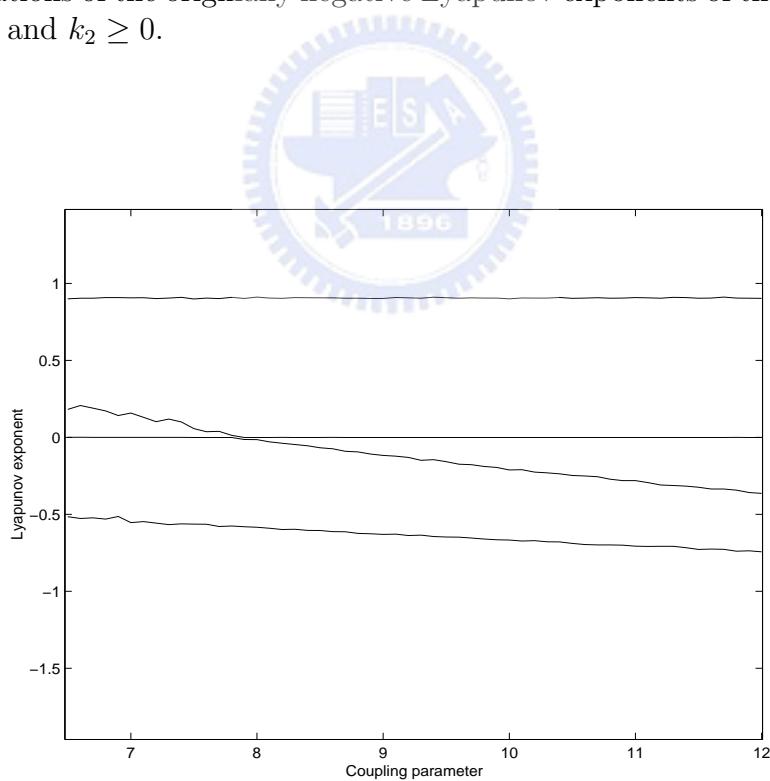


Figure 16: Variations of the originally positive, null Lyapunov exponents of the coupled system (4-4) for $k_1 = 0$ and $k_2 \in [6.5, 12]$.

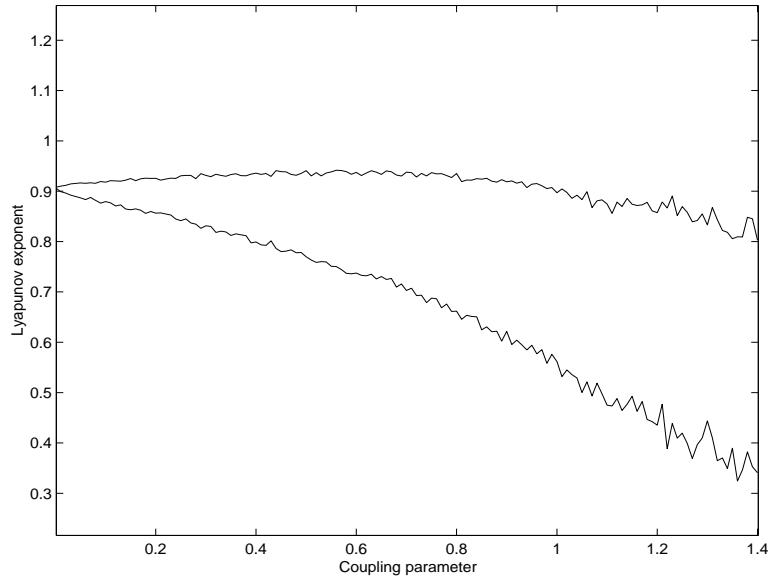


Figure 17: Variations of the originally positive Lyapunov exponents of the coupled system (4-4) for $k_1 = k_2 \geq 0$.

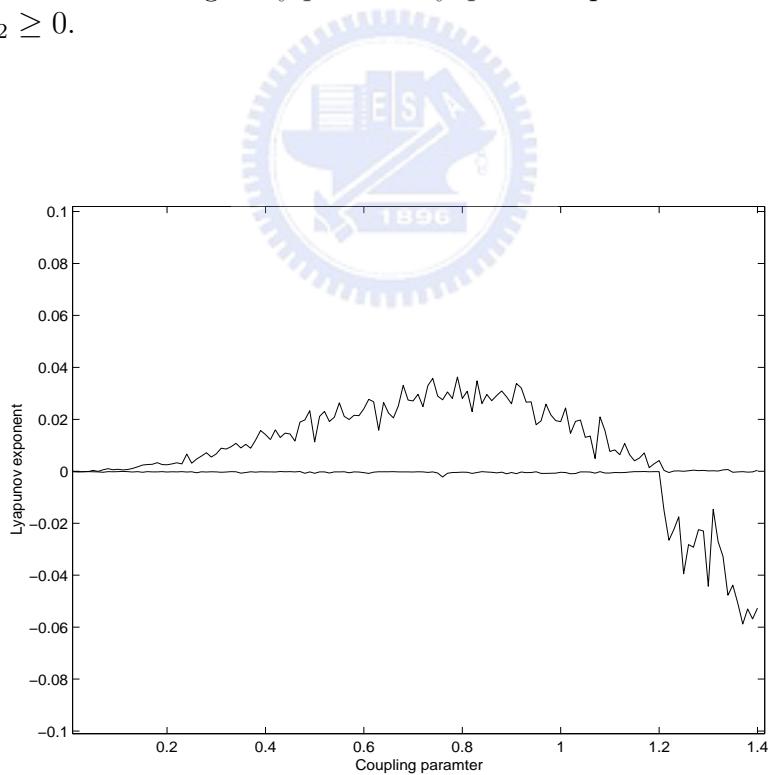


Figure 18: Variations of the originally null Lyapunov exponents of the coupled system (4-4) for $k_1 = k_2 \geq 0$.

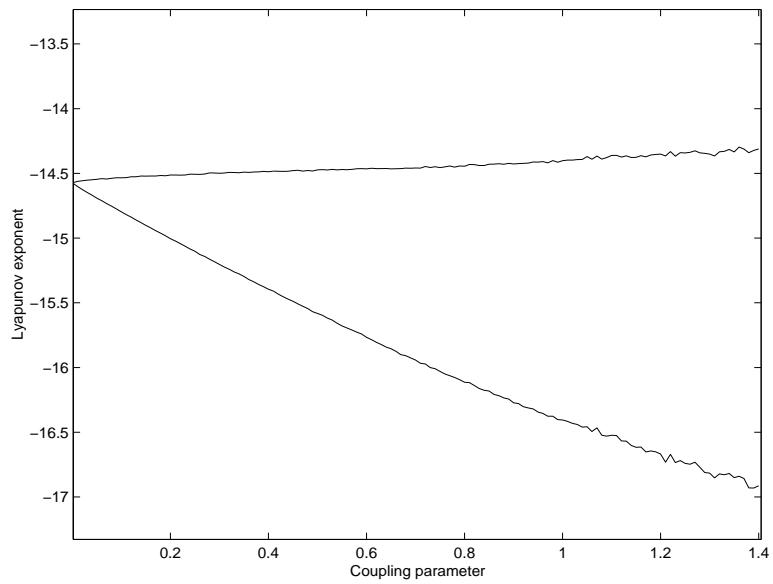


Figure 19: Variations of the originally negative Lyapunov exponents of the coupled system (4-4) for $k_1 = k_2 \geq 0$.

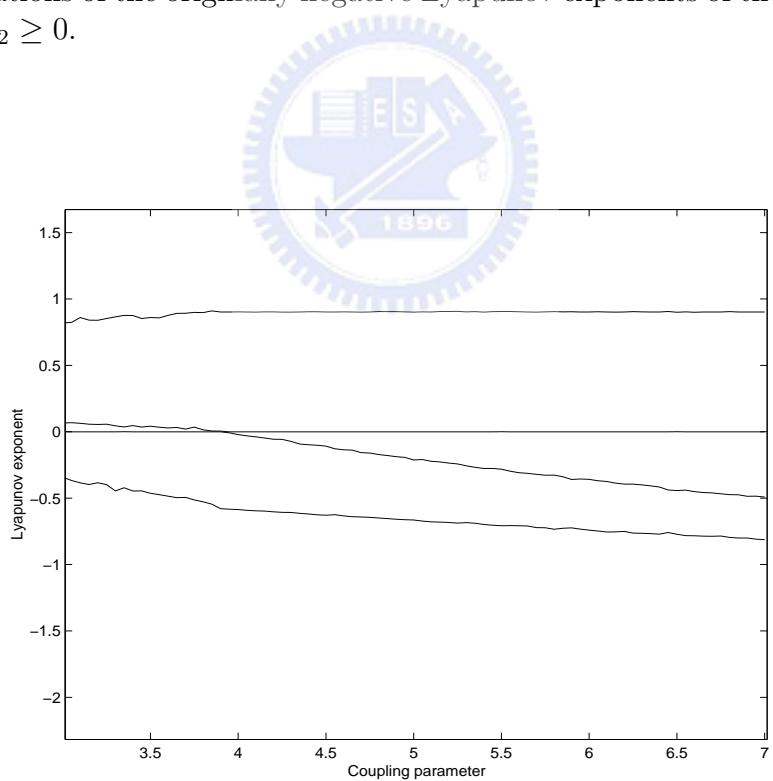


Figure 20: Variations of the originally positive, null Lyapunov exponents of the coupled system (4-4) for $k_1 = k_2 \in [3, 7]$.

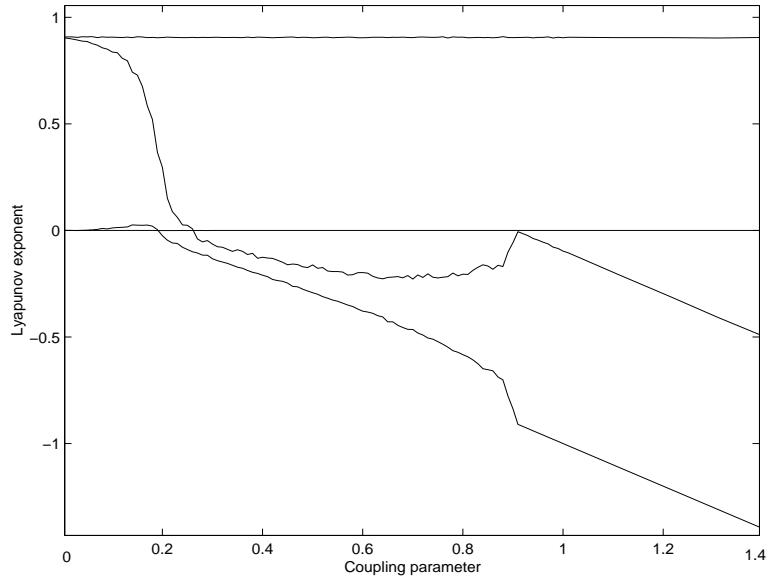


Figure 21: Variations of the originally positive and null Lyapunov exponents of the coupled system (4-5) for $k_1 = 0$ and $k_2 \geq 0$.

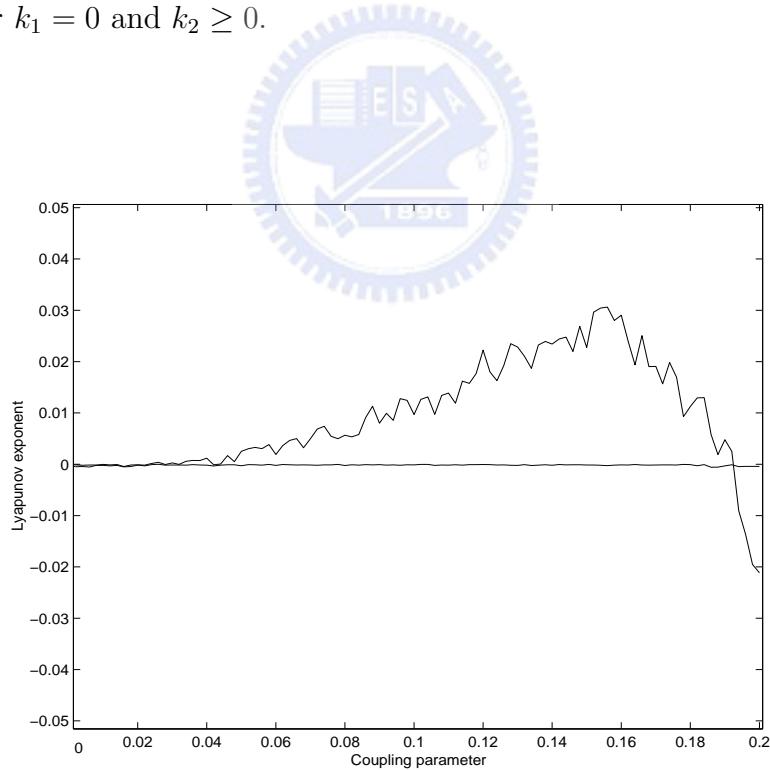


Figure 22: Variations of the originally null Lyapunov exponents of the coupled system (4-5) for $k_1 = 0$ and $k_2 \in [0, 0.2]$

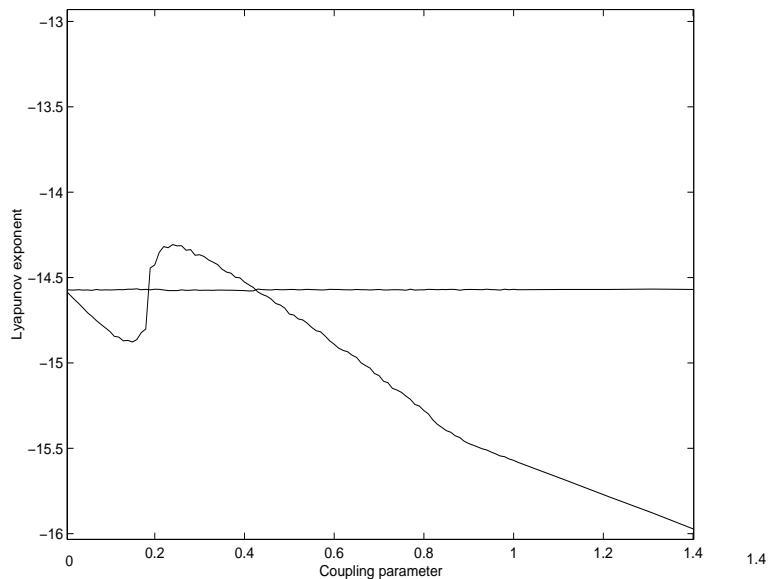


Figure 23: Variations of the originally negative Lyapunov exponents of the coupled system (4-5) for $k_1 = k_2 \geq 0$.

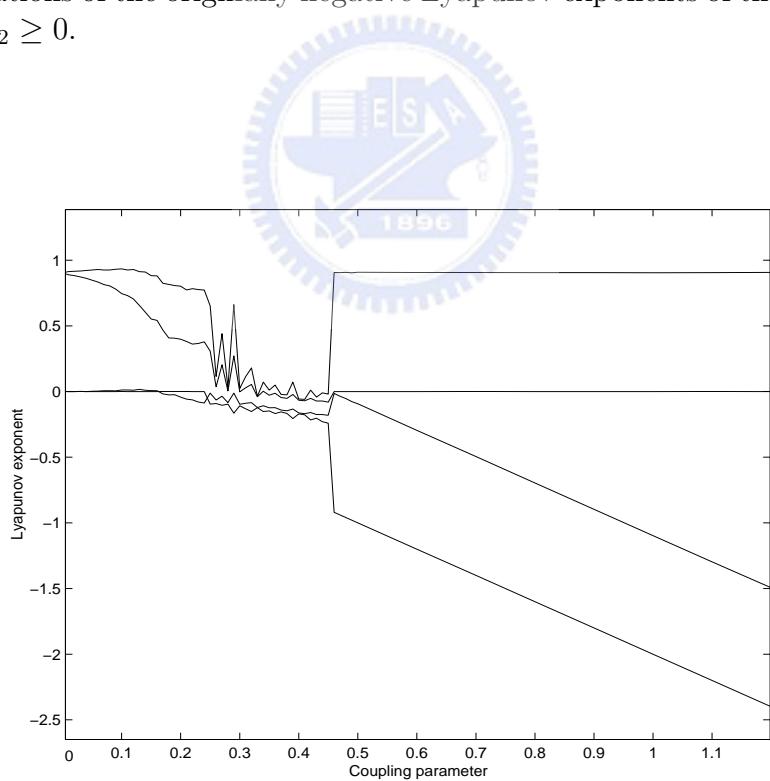


Figure 24: Variations of the originally positive and null Lyapunov exponents of the coupled system (4-5) for $k_1 = k_2 \geq 0$.

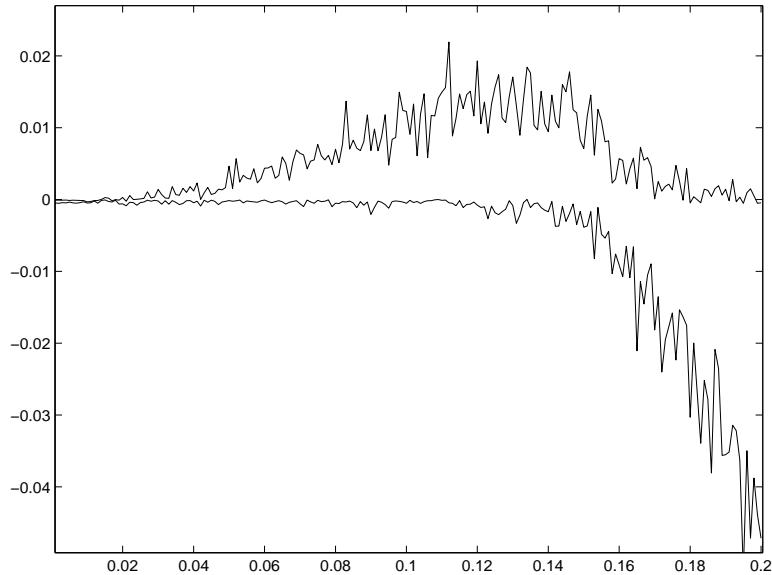


Figure 25: Variations of the originally null Lyapunov exponents of the coupled system (4-5) for $k_1 = k_2 \in [0, 0.2]$.

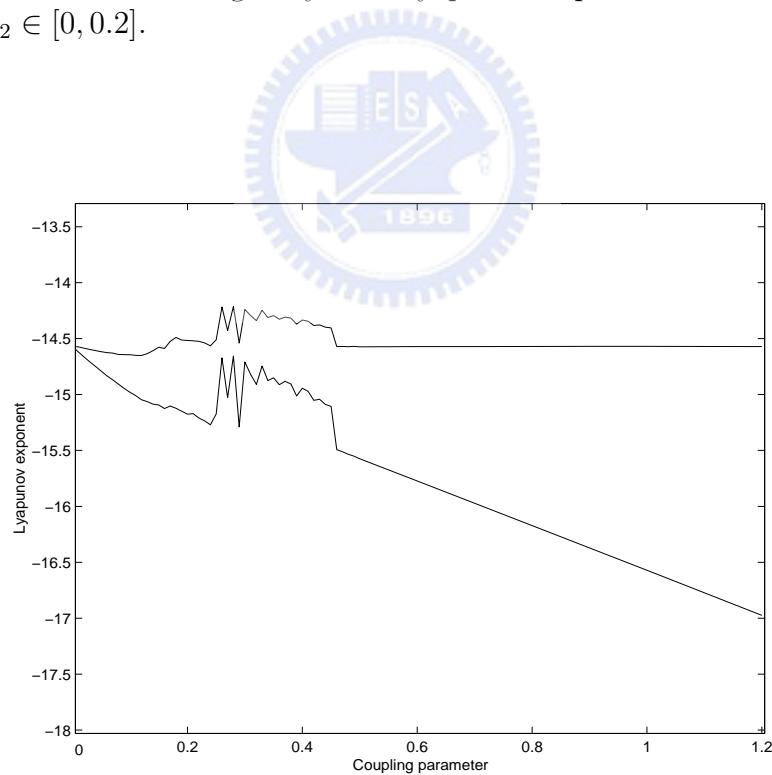


Figure 26: Variations of the originally negative Lyapunov exponents of the coupled system (4-5) for $k_1 = k_2 \geq 0$.

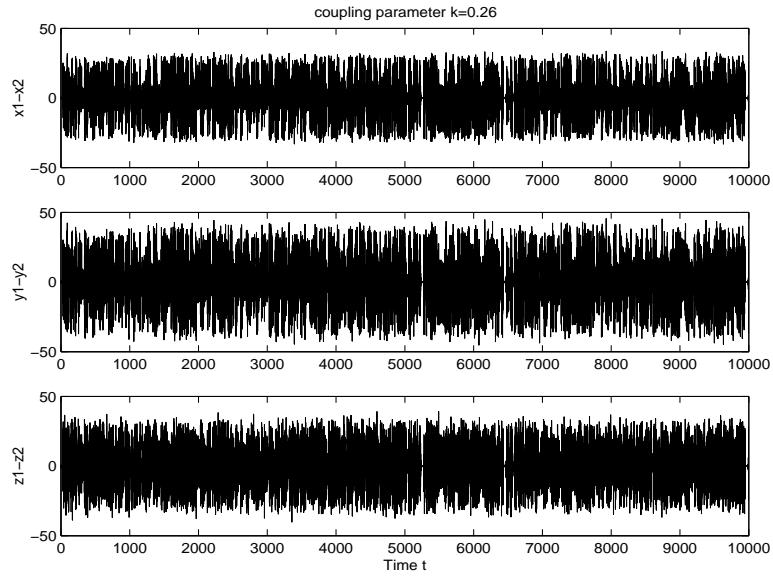


Figure 27: Behavior of the $x_1 - x_2$, $y_1 - y_2$ and $z_1 - z_2$ in the coupled system (4-5) for $k_1 = k_2 = 0.26$.

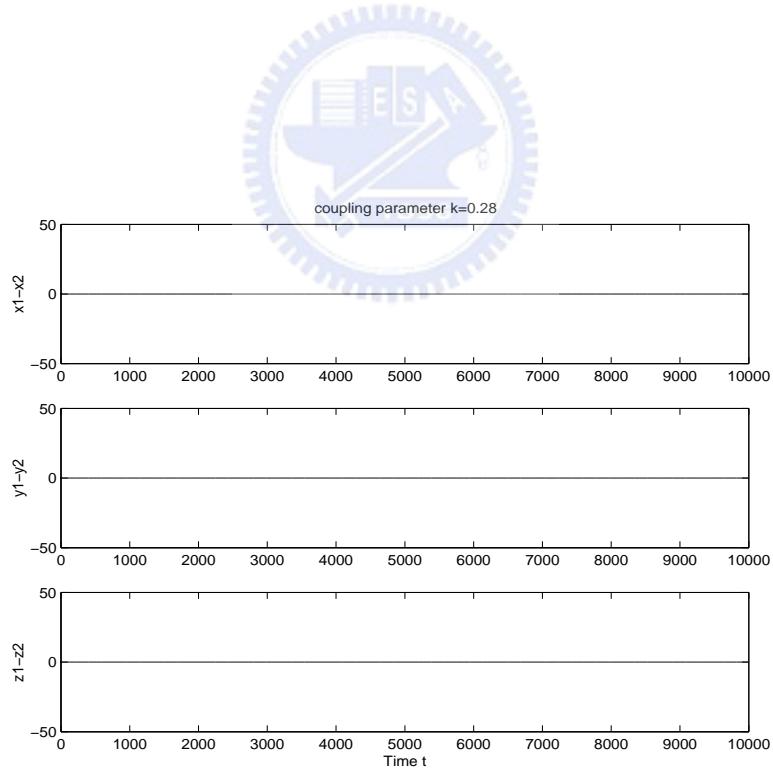


Figure 28: Behavior of the $x_1 - x_2$, $y_1 - y_2$ and $z_1 - z_2$ in the coupled system (4-5) for $k_1 = k_2 = 0.28$.

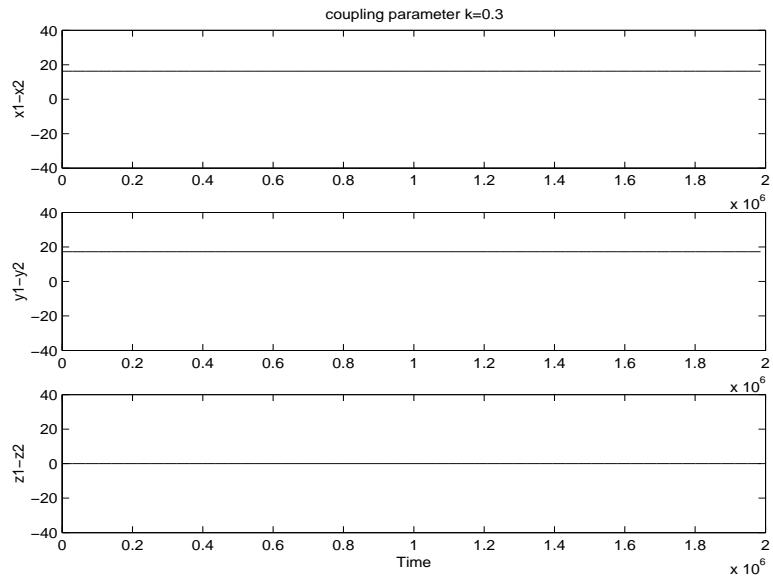


Figure 29: Behavior of the $x_1 - x_2$, $y_1 - y_2$ and $z_1 - z_2$ in the coupled system (4-5) for $k_1 = k_2 = 0.3$.

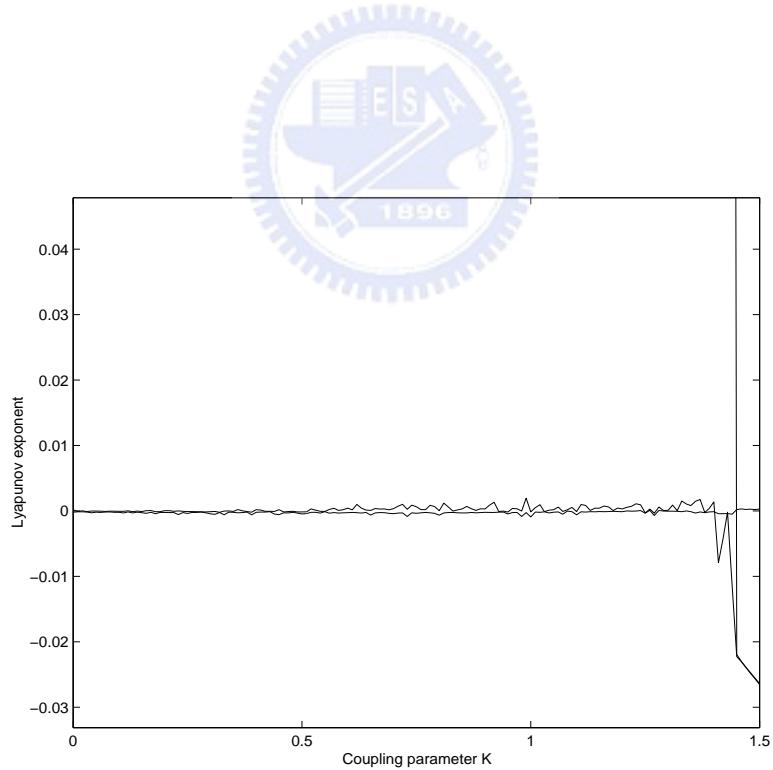


Figure 30: Variations of the originally positive Lyapunov exponents of the coupled system (4-6) for $k \geq 0$.

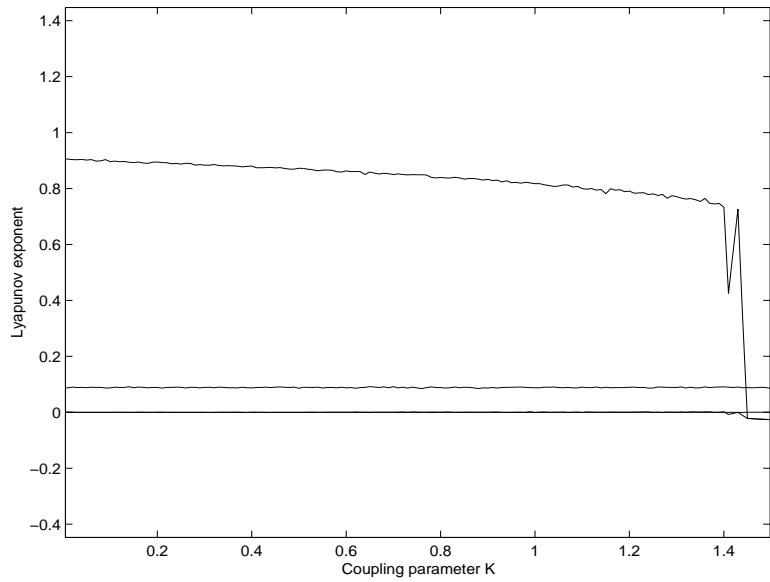


Figure 31: Variations of the originally null Lyapunov exponents of the coupled system (4-6) for $k \geq 0$.

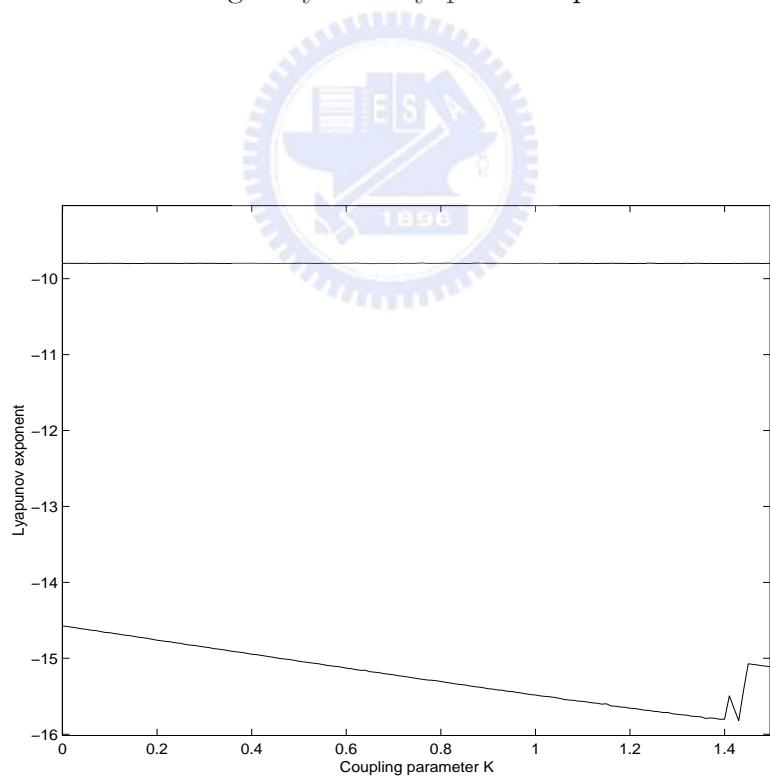


Figure 32: Variations of the originally negative Lyapunov exponents of the coupled system (4-6) for $k \geq 0$.