

# Investigation of Relationship between Oscillation Frequency and Synchronous State

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## SUMMARY

The synchronous phenomena are observed as not only field of natural science but also various fields. For example, we can confirm the flashing of fireflies (a firefly is able to match frequency of other fireflies), metronome, heartbeat of the human, and so on. The synchronous phenomena have been researched extensively in physics[1] and biology[2]. In additions, applying synchronous phenomenon to medical technology is developed. For the future engineering application, we consider it is important to investigate synchronous phenomena of coupled chaotic circuit.

Chaotic attractor exists own oscillation frequency. Oscillation frequency changes in proportion to synchronous state. We consider that the oscillation frequency becomes closer to steady value when synchronous state becomes synchronization. As a result, we confirmed interested characteristic of oscillation frequency when synchronous state is changed from asynchronous into synchronization, and it has no relationship between oscillation frequency and synchronous state.

## REFERENCES

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