

## CLUSTER PHASE

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For details and example applications of the method see:

Richardson, M. J., Garcia, A., Frank, T. D., Gergor, M., & Marsh, K. L., (2012). Measuring Group Synchrony: A Cluster-Phase Method for Analyzing Multivariate Movement Time-Series. *Frontiers in Physiology*. 3, 405.

Frank, T. D., & Richardson, M. J. (2010). On a test statistic for the Kuramoto order parameter of synchronization: with an illustration for group synchronization during rocking chairs. *Physica D*, 239, 2084-2092.

### **Example Data:** Rocking Chair Group Synchrony Data

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Method Info:

- Two groups (201 & 202) of rocking in six chairs positioned in a circle.
- Participants: Colby undergraduate students (no prior knowledge about coordination).
- Continuation paradigm: Participants practiced rocking to a metronome (.6 Hz) for 30 s prior to completing experimental trials
- Two Trial Types:      1 x EC = Eyes closed, control/baseline condition to measure chance level coordination -- completed first.  
                                 2 x EO = Eyes open, instructed to coordinate. -- completed last.

Data info:

- Data length 120 s (7200 data points)