

## Sleep disrupts high-level speech parsing despite significant basic auditory processing

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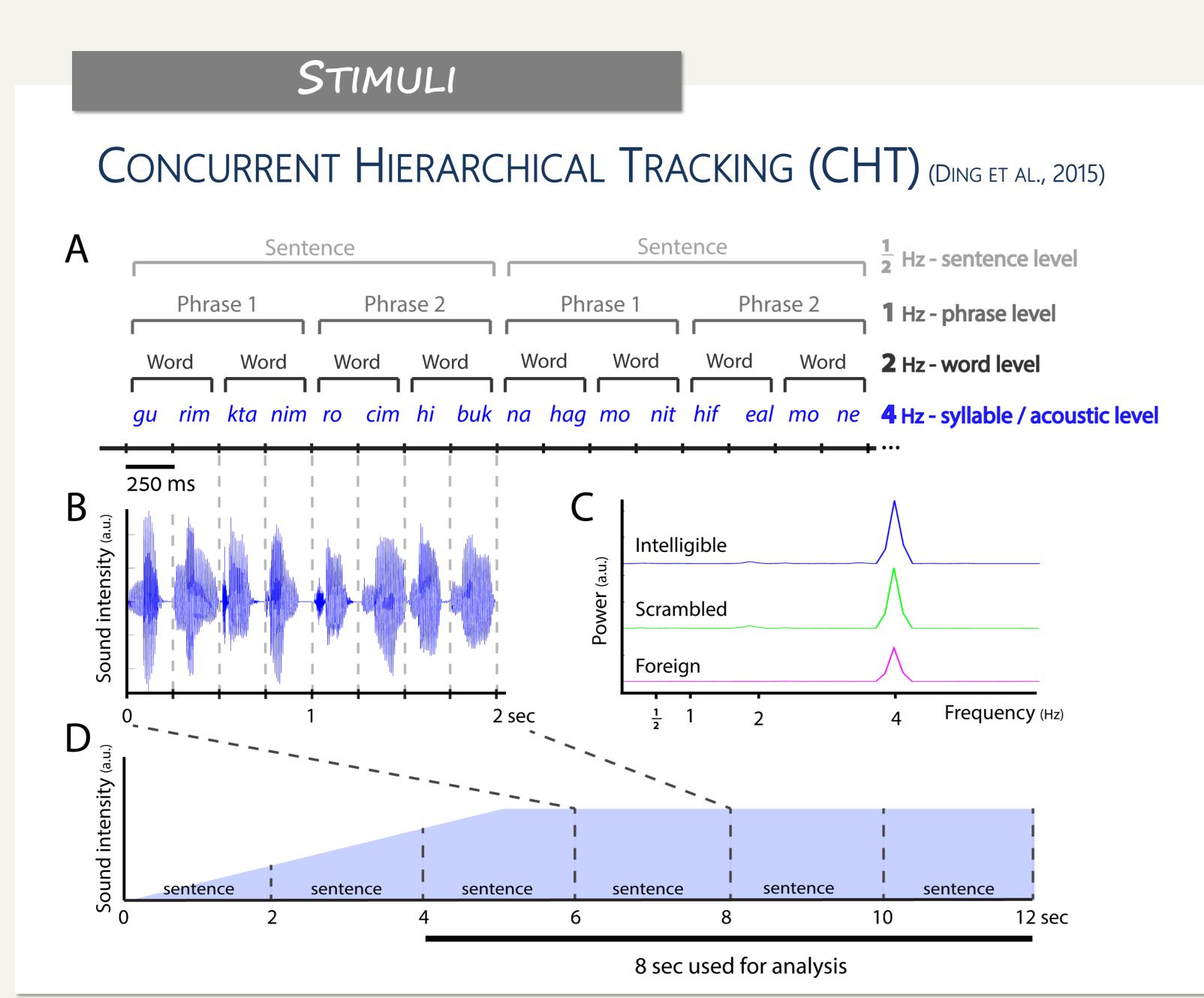
(\*=Shared senior authorship)

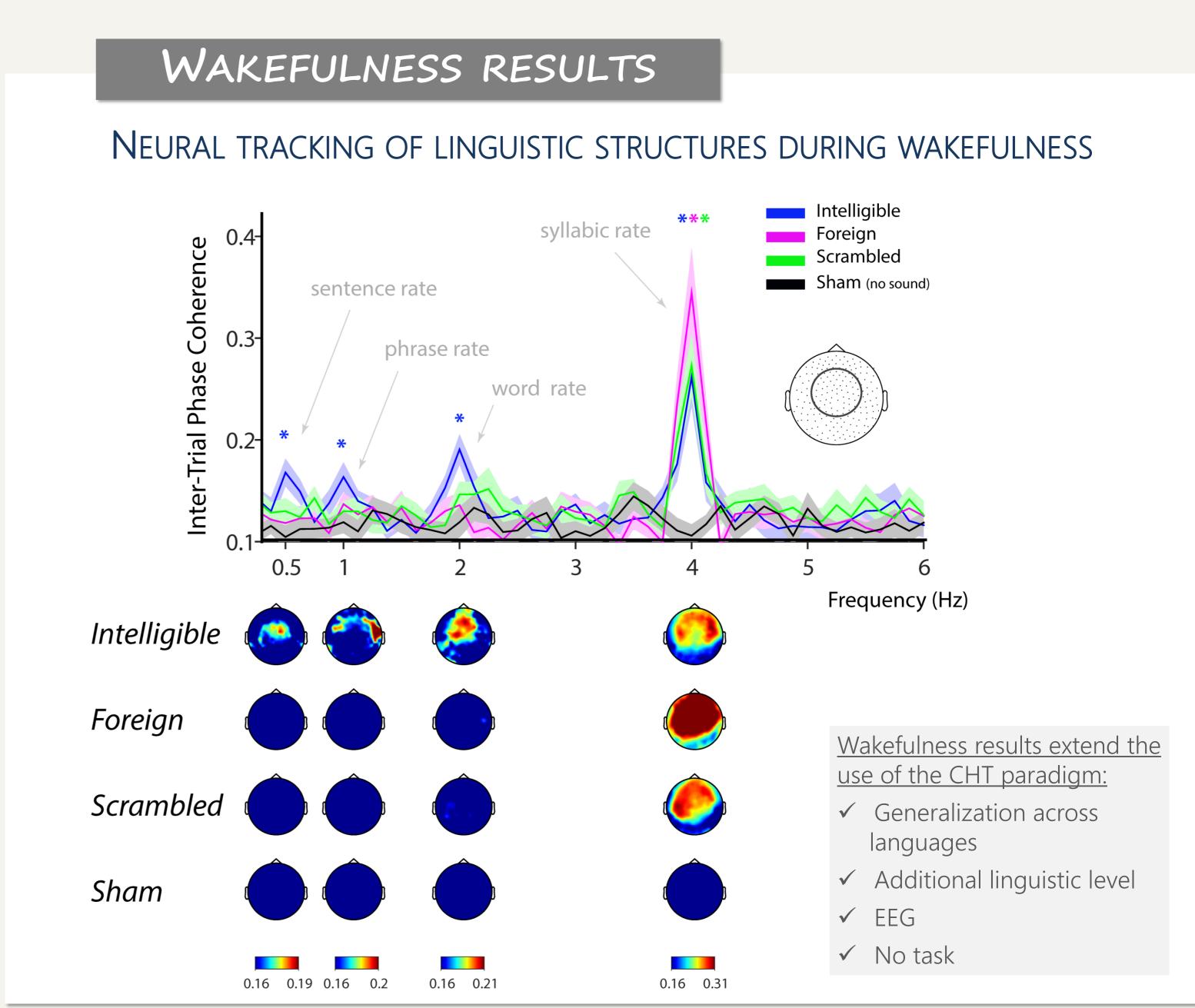
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## BACKGROUND

The extent to which speech processing persists during sleep remains unclear.

Does the sleeping brain identify words in a stream of continuous speech? Does it further integrate them into phrases? Sentences?





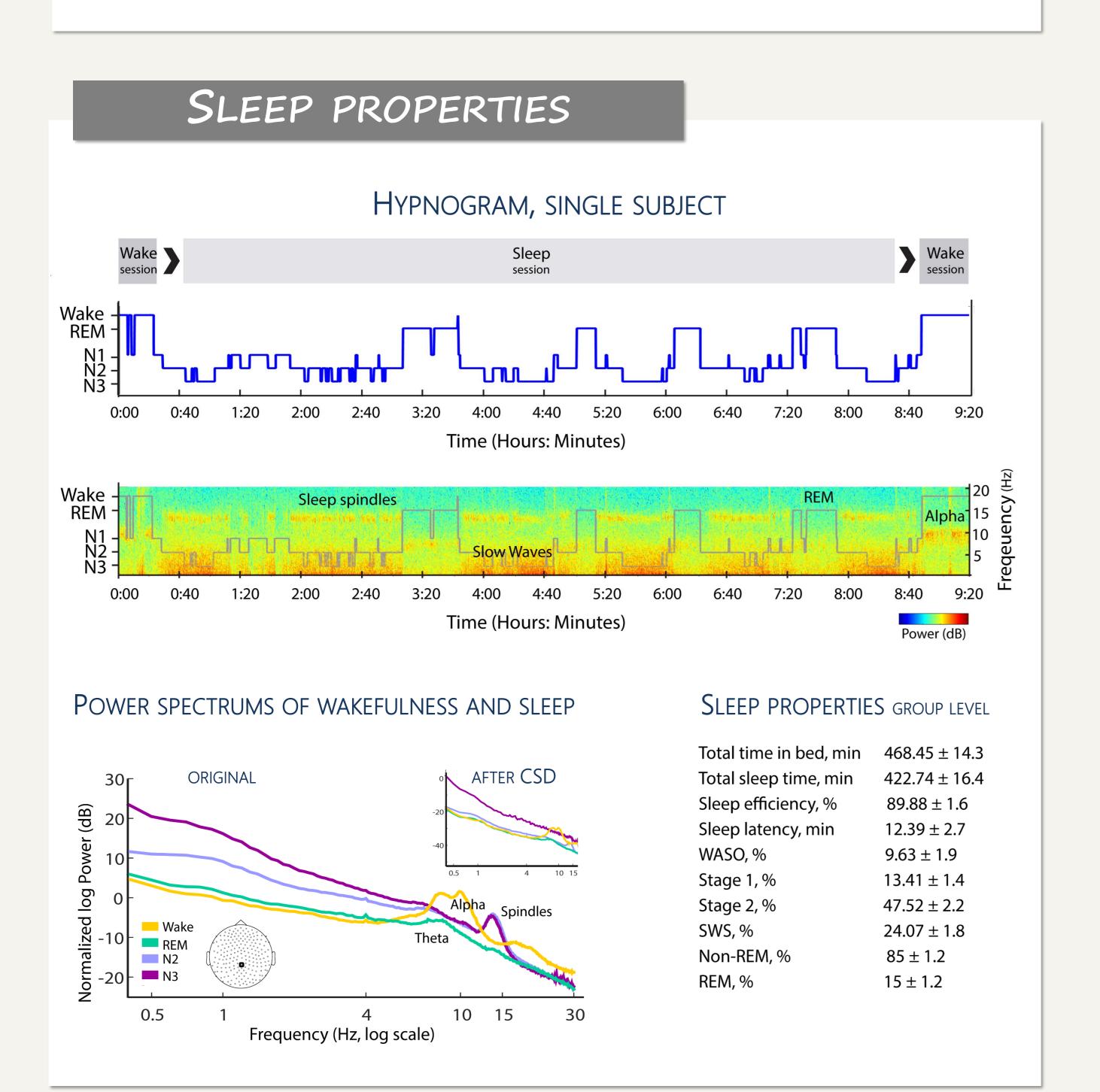
## DESIGN

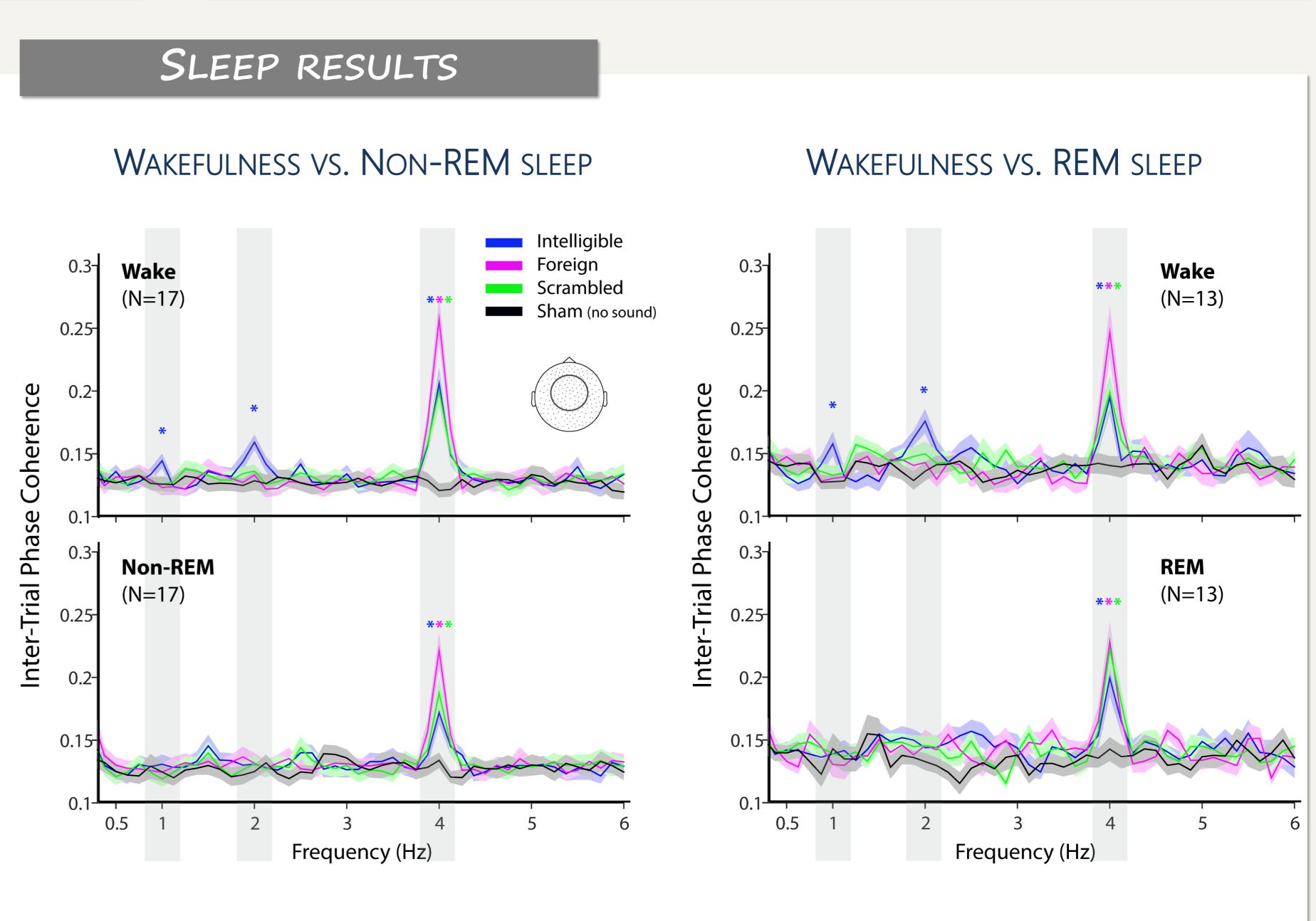
N=21 (10 females, mean age 28.2±4.0)

Full night sleep studies.

Passive listening, no task.

High-density **EEG** (256 channels, EGI with conductive gel).





## DISCUSSION

During both REM and non-REM sleep:

- Basic acoustic traits are processed.
- High order processing is severely degraded.

Future research may use the CHT paradigm to study other unresponsive states, clinical populations, children, etc.