



# DRIVING PLASTICITY IN RECURRENT VISUAL NETWORKS AFFECTS PERCEPTUAL DECISION-MAKING

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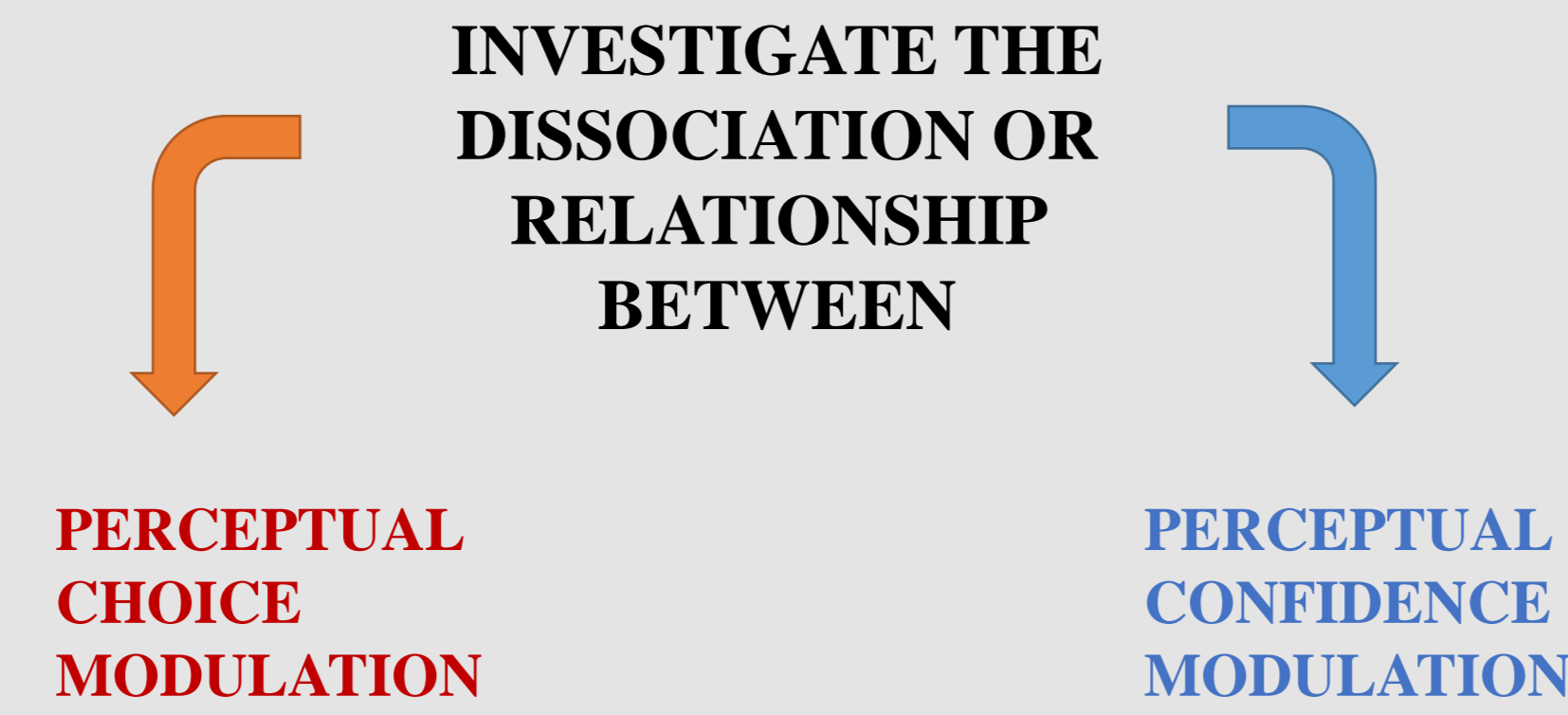
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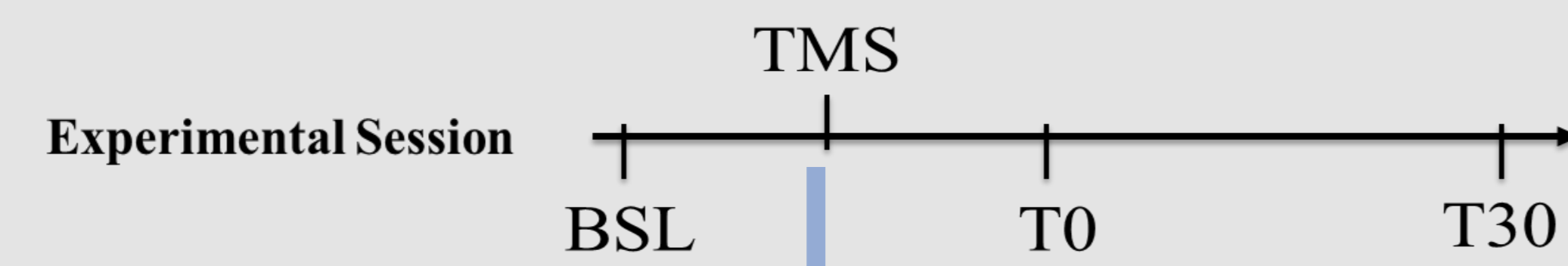
## 1. INTRODUCTION

The link between perceptual choice (i.e. accuracy) and perceptual certainty (i.e. confidence) and how they emerge from cortical elaboration are a growing field of investigation. Animal studies on visual motion perception have helped to establish the role of MT+/V5 and LIP/IPS areas in representing the sensory evidence of motion direction and the level of subjective certainty, respectively [1,2].

## 2. OBJECTIVES



## 3. METHODS



### Experimental Task:

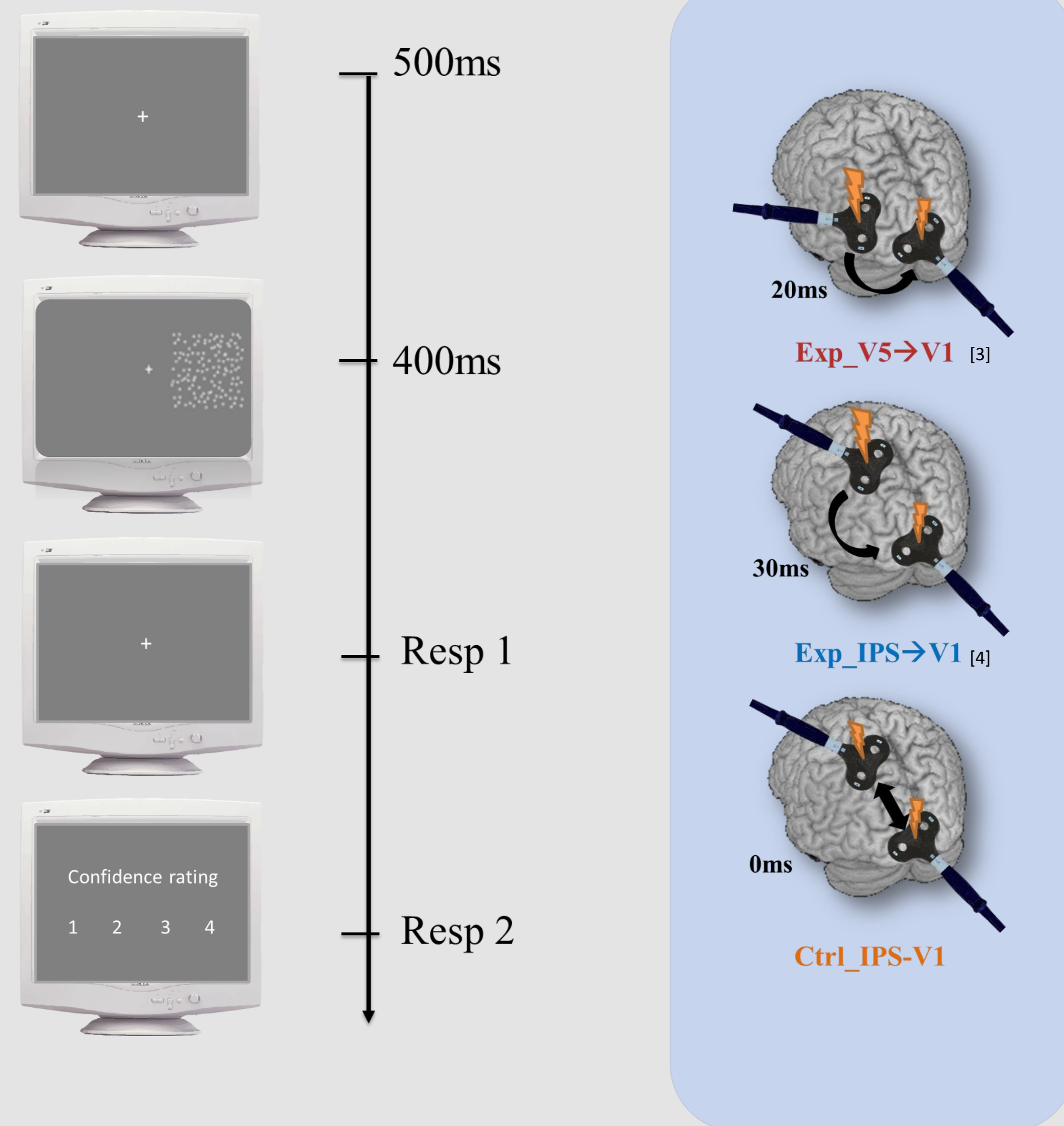
- 2AFC, motion discrimination (left/right)
- Confidence rating (1 to 4)
- 600 trials

### 45 Participants:

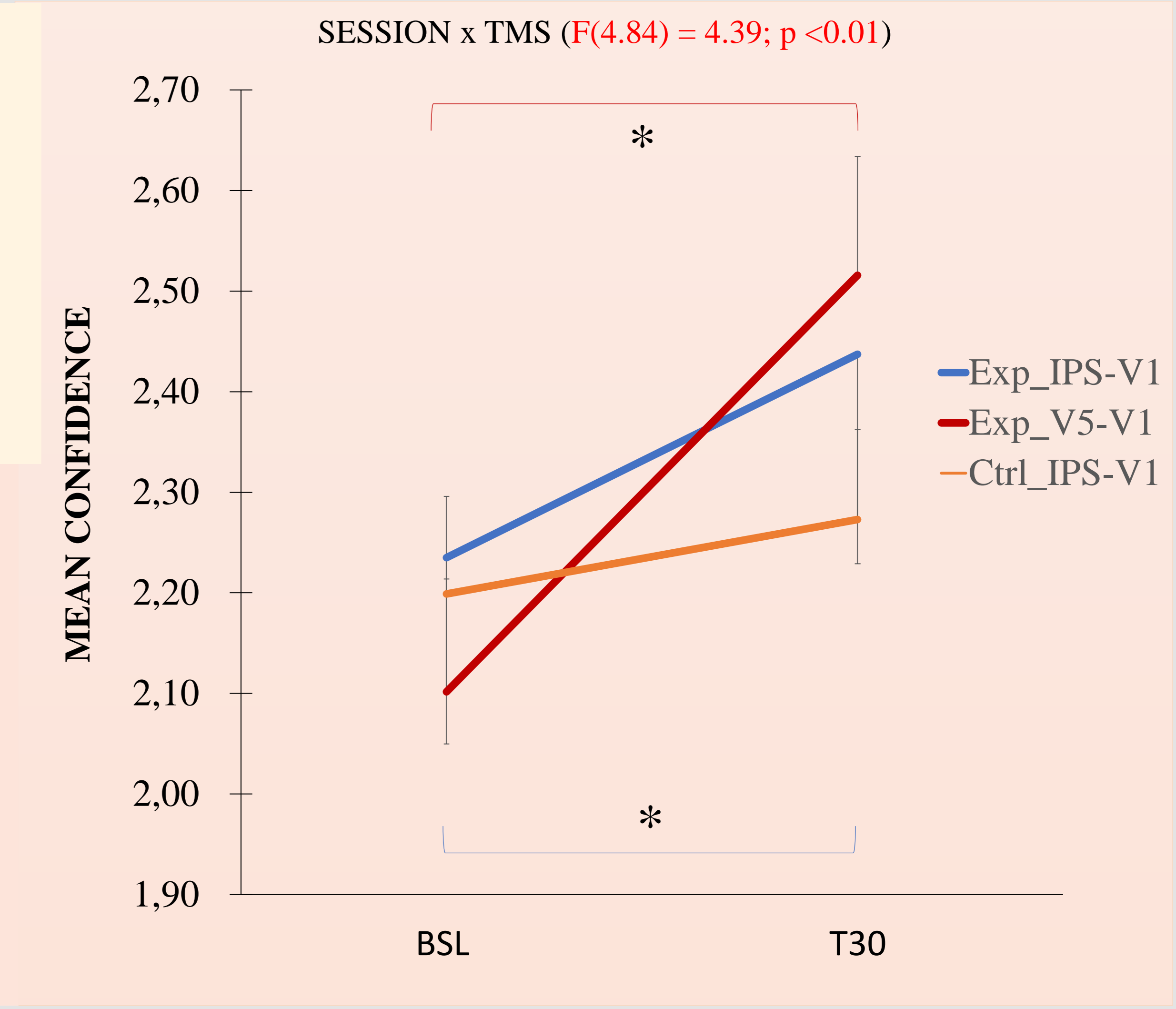
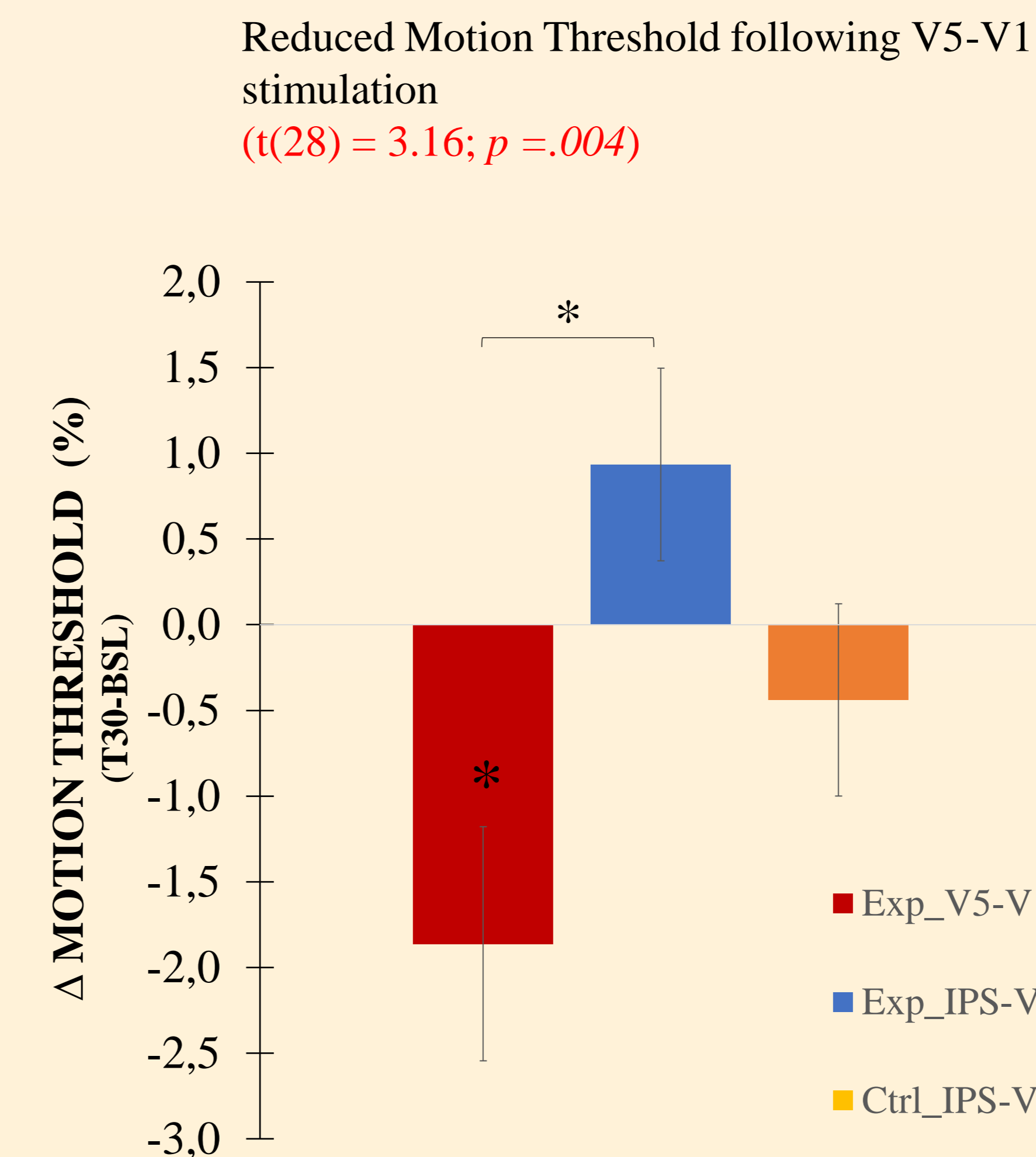
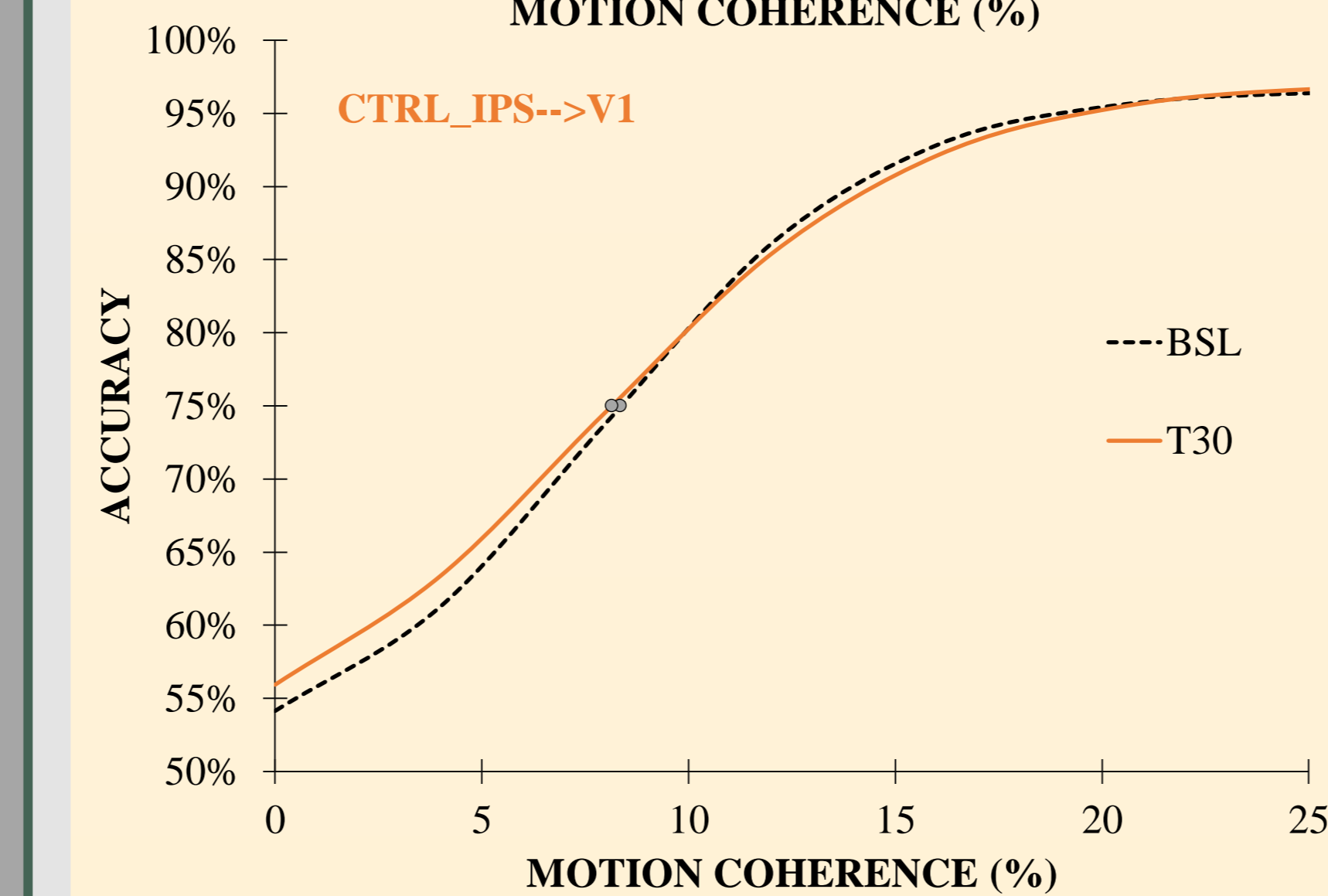
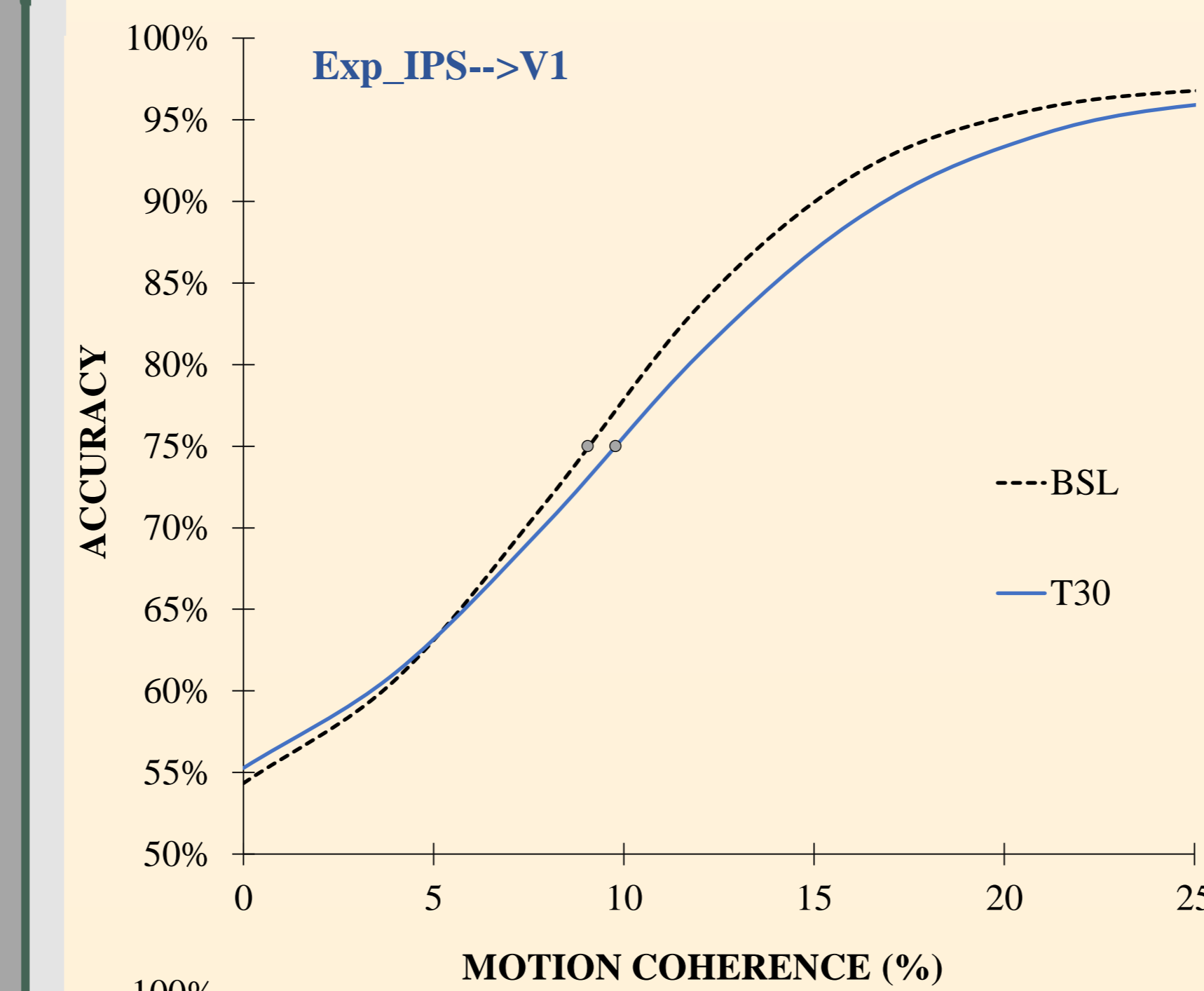
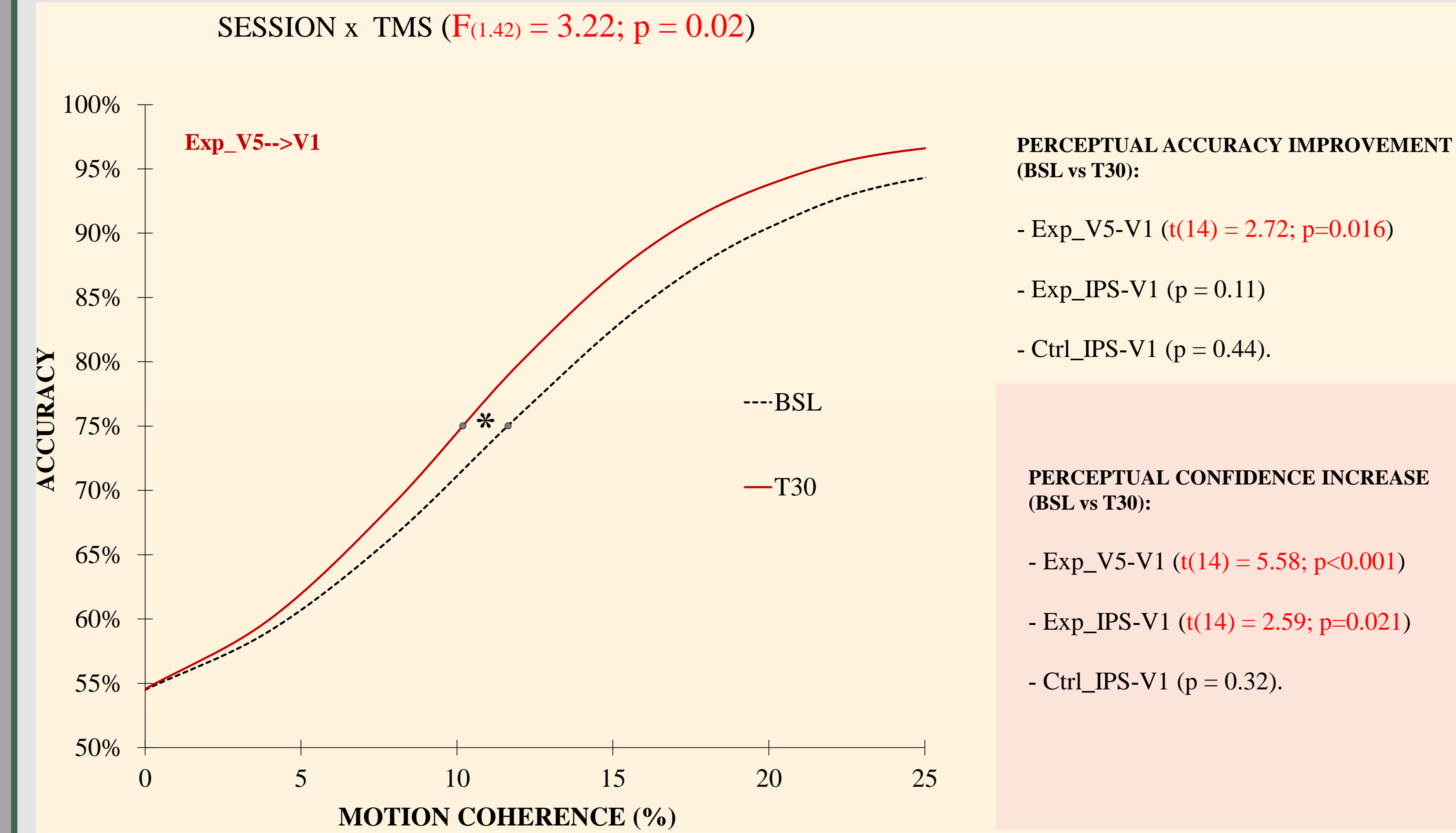
- 3 Groups

### TMS PROTOCOL:

- Cortico-cortical Paired Associative Stimulation (ccPAS)
- 90 pulses (~15min)
- 60% stimulator output



## 4. RESULTS



## 5. CONCLUSIONS

IPS and V5 affect early visual areas activity in a partially different way. Boosting V5-to-V1 connectivity facilitated both objective accuracy and subjective certainty. Boosting IPS-to-V1 connectivity exclusively enhanced the magnitude of certainty without affecting accuracy. We conclude that the enhanced certainty following V5-to-V1 stimulation may depend on the lowering in threshold sensitivity primarily driven by the V5-to-V1 stimulation. This in turn may have indirectly impacted IPS-to-V1 connectivity.

## REFERENCES

1. Ditterich et al., 2003. *Nat Neurosci.*
2. Hanks et al., 2006. *Nat Neurosci.*
3. Romei et al., 2016. *Curr Biology*
4. Parks et al., 2015. *Neuropsychologia*