SIPF
Società Italiana di Psicofisiologia e Neuroscienze Cognitive

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The Tactile Knowledge of the Visual Body Self

Galigani M, Romeo M, Genovese F, Forster B, Garbarini F

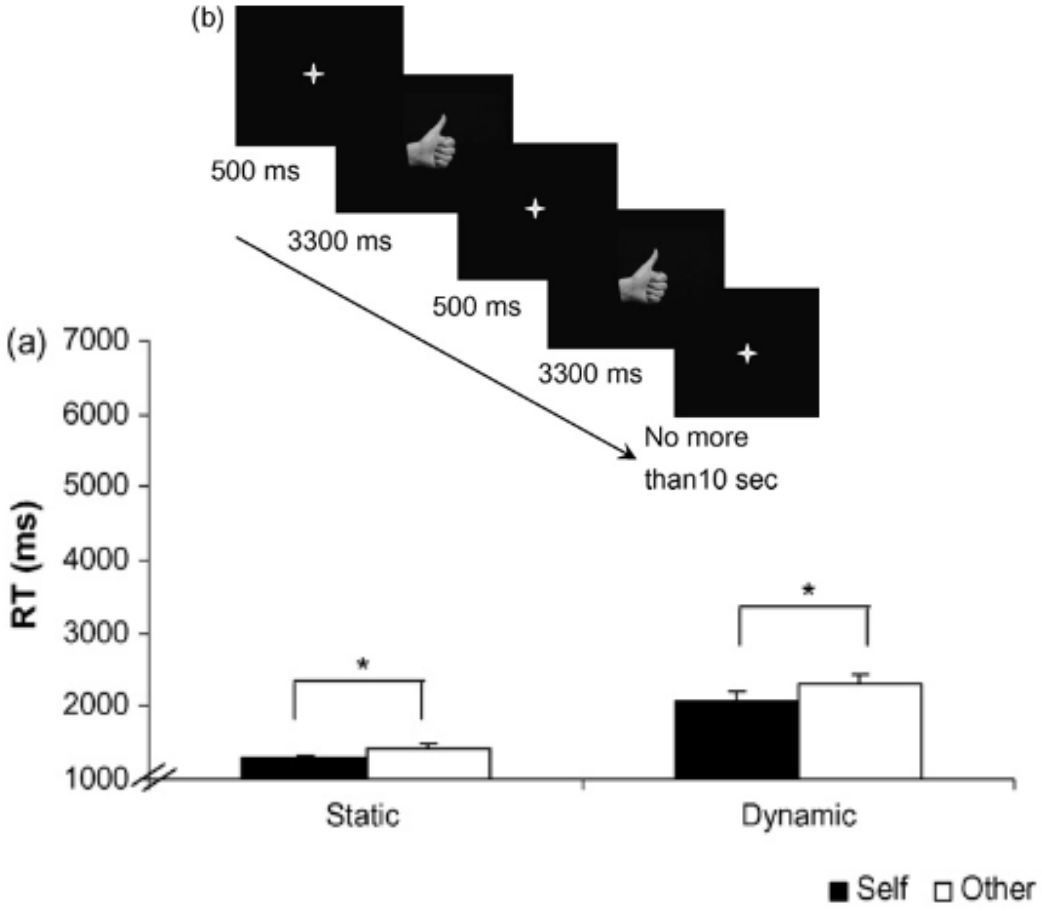
UNIVERSITA' DEGLI STUDI DI TORINO

Mattia Galigani
mattia.galigani@unito.it

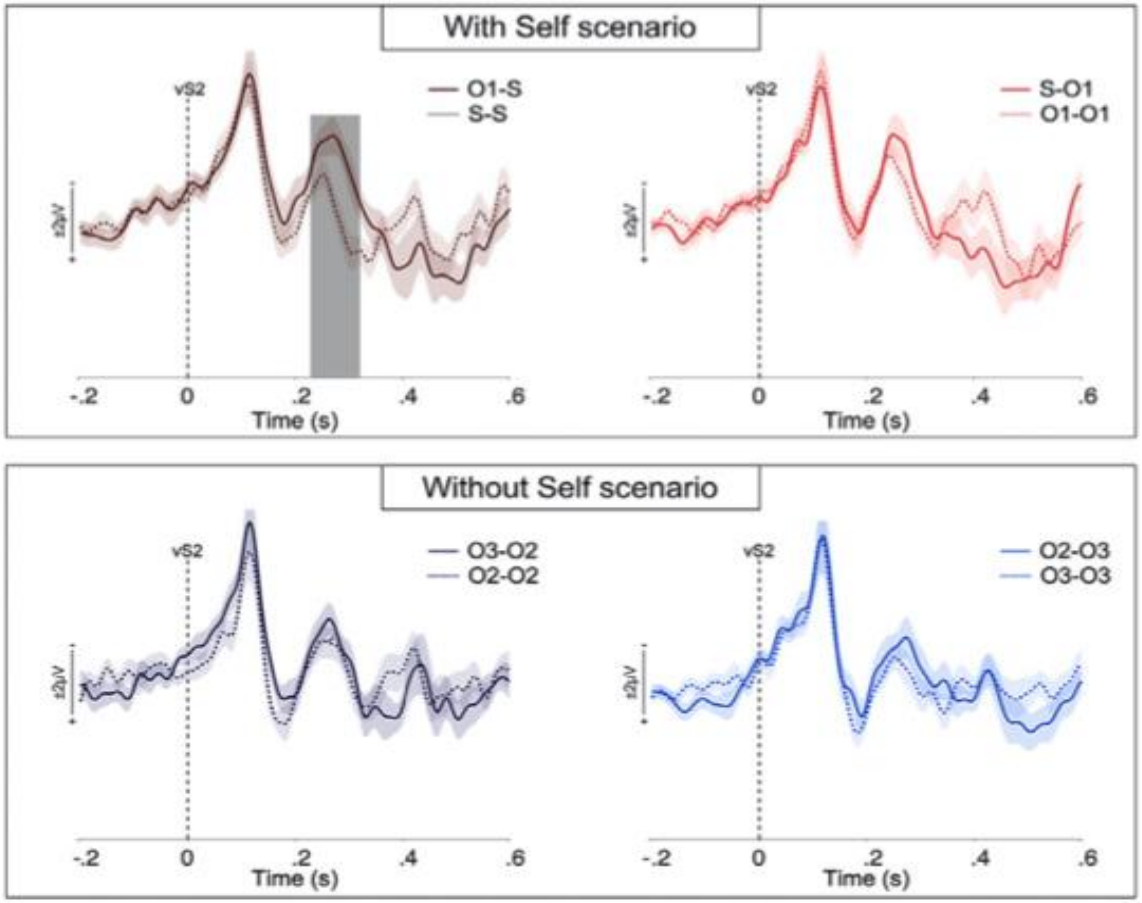
MANIBUS Lab

Background

BODILY SELF-RECOGNITION ⟶ A **marker** of body awareness



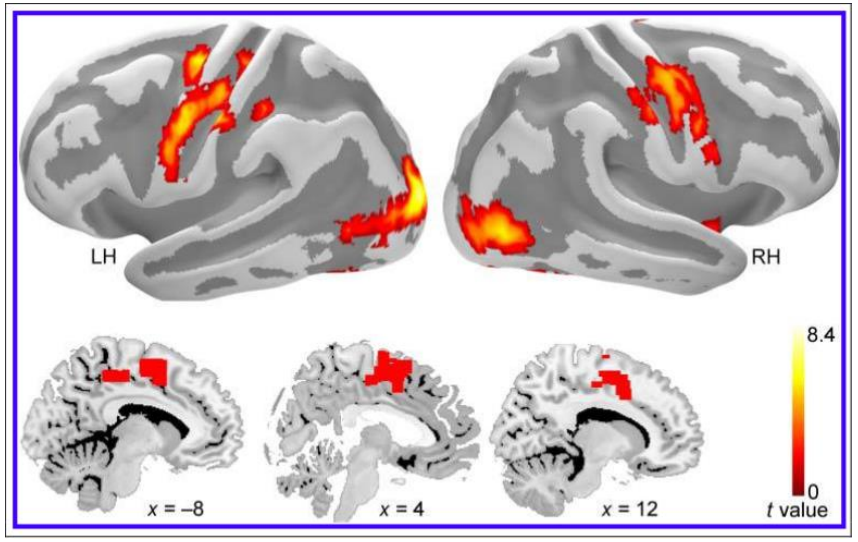
Frassinetti et al., 2009 *Neuropsychologia*



Galigani et al., 2021 *Cortex*

Background

Discrimination between ourselves' and others' effectors relies on a **sensorimotor network**



SELF-HAND RECOGNITION

- Visual information
- Sensorimotor information

OTHER-HAND RECOGNITION

- Visual information only

Ferri et al., 2012 *JoCN*

Aim

Is somatosensory information involved in self-hand recognition?

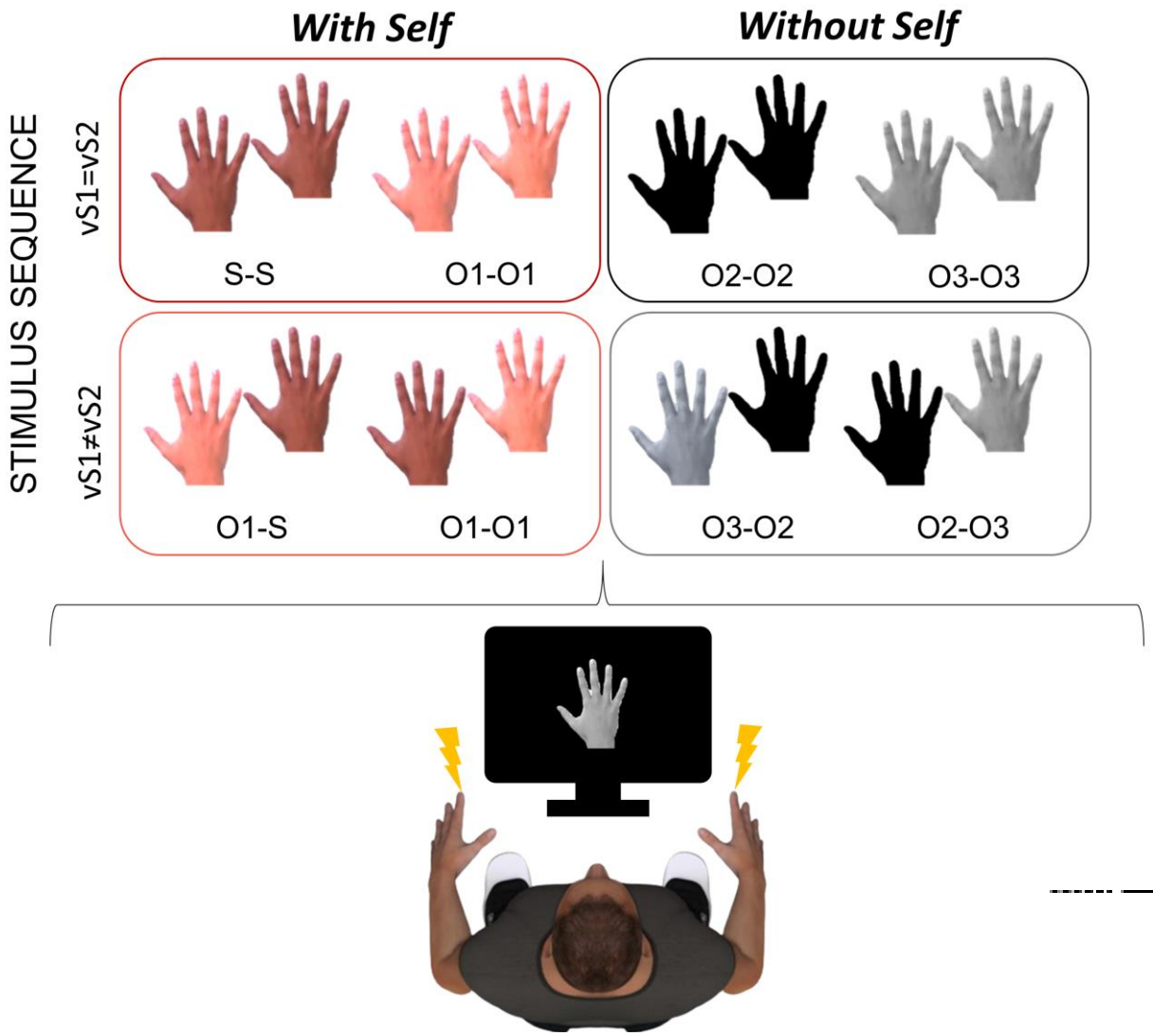
VEPs-free SEPs protocol

Subtraction: (VEPs & SEPs) - VEPs = SEPs only

Uncover the role of somatosensory cortex during a visual task

Galvez-Pol et al., 2020 *Cortex*

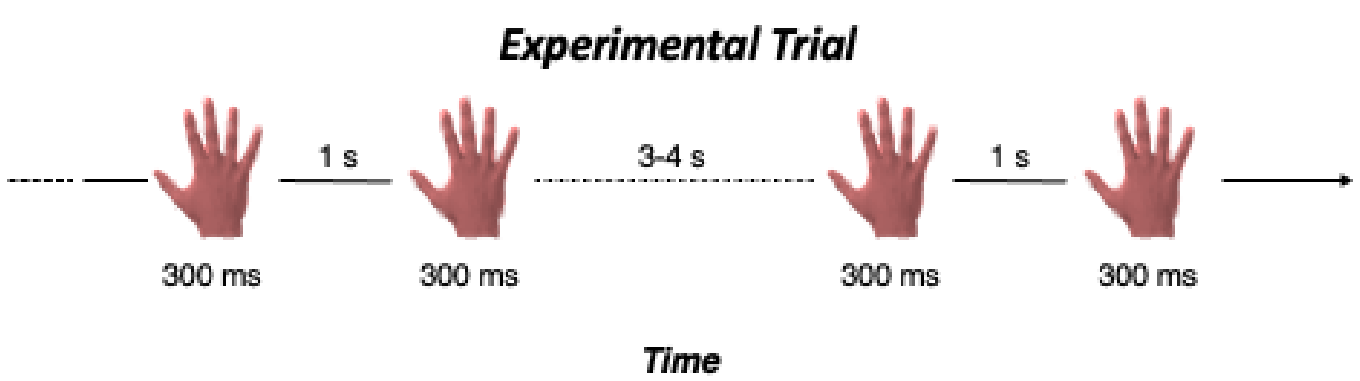
Experimental Paradigm



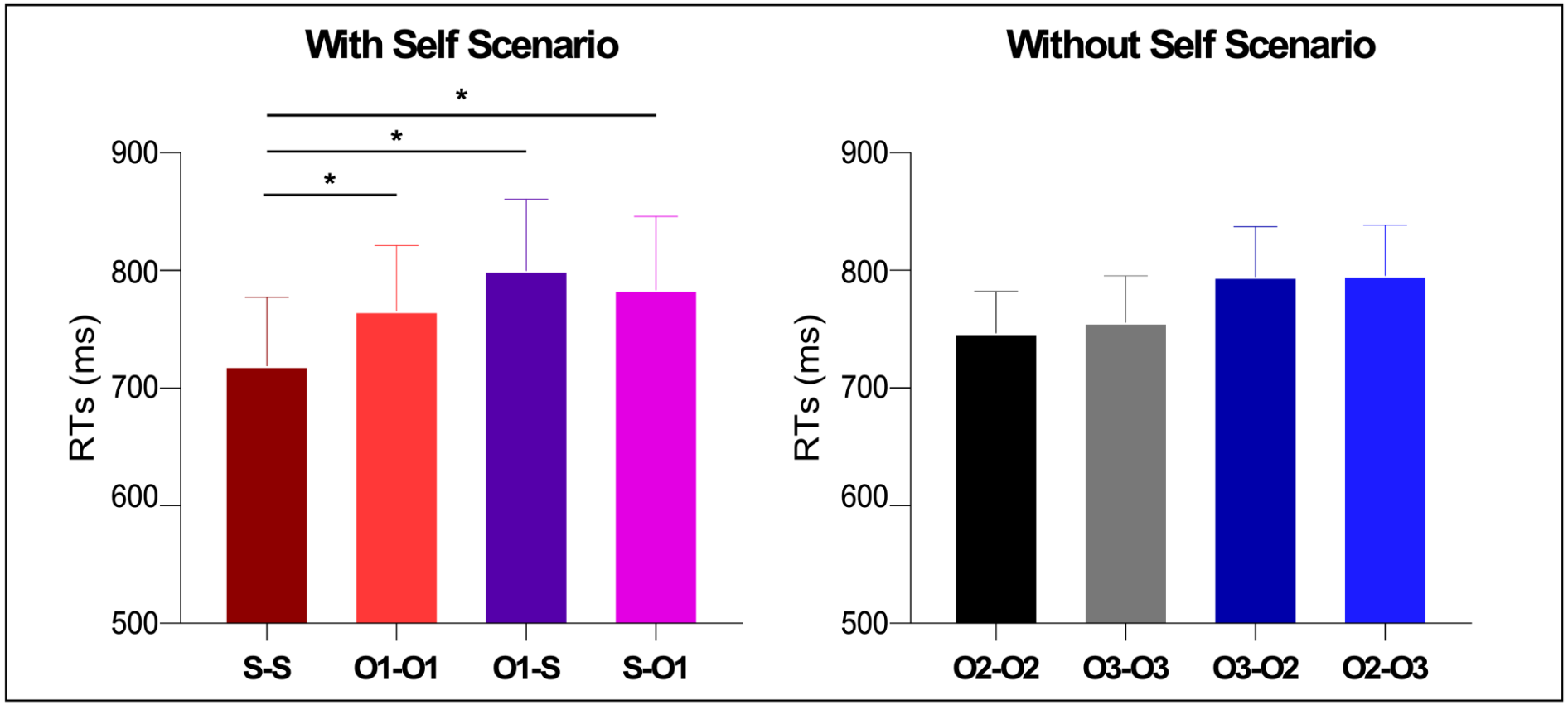
18 healthy participants

RTs

ERPs

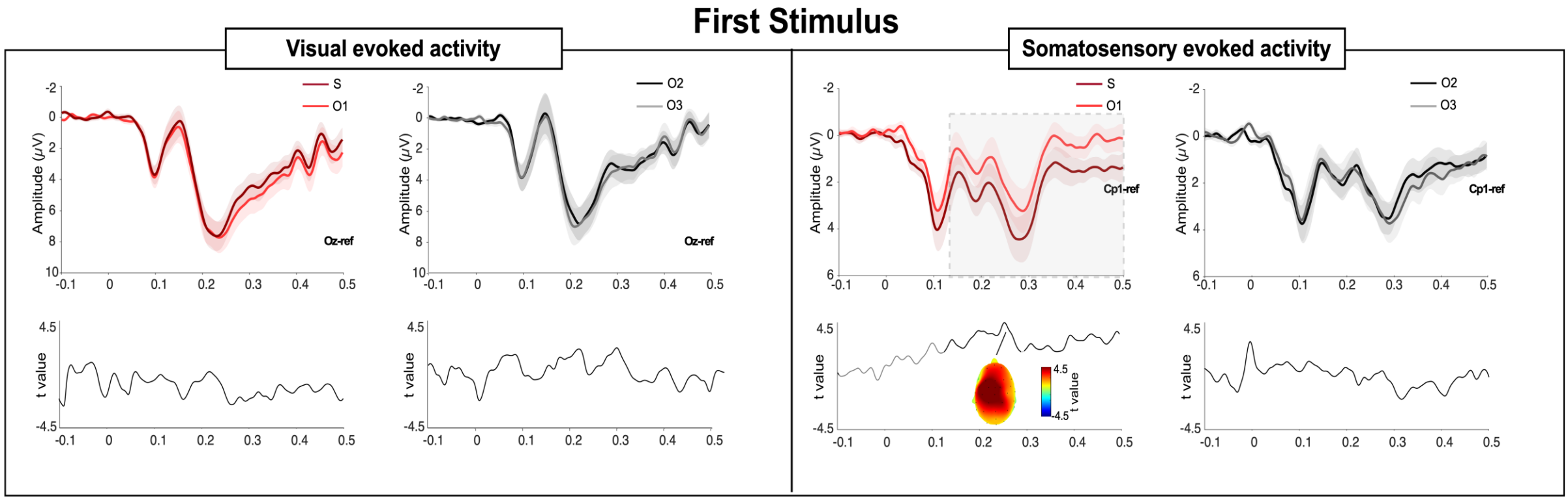


Behavioral Results (RTs)



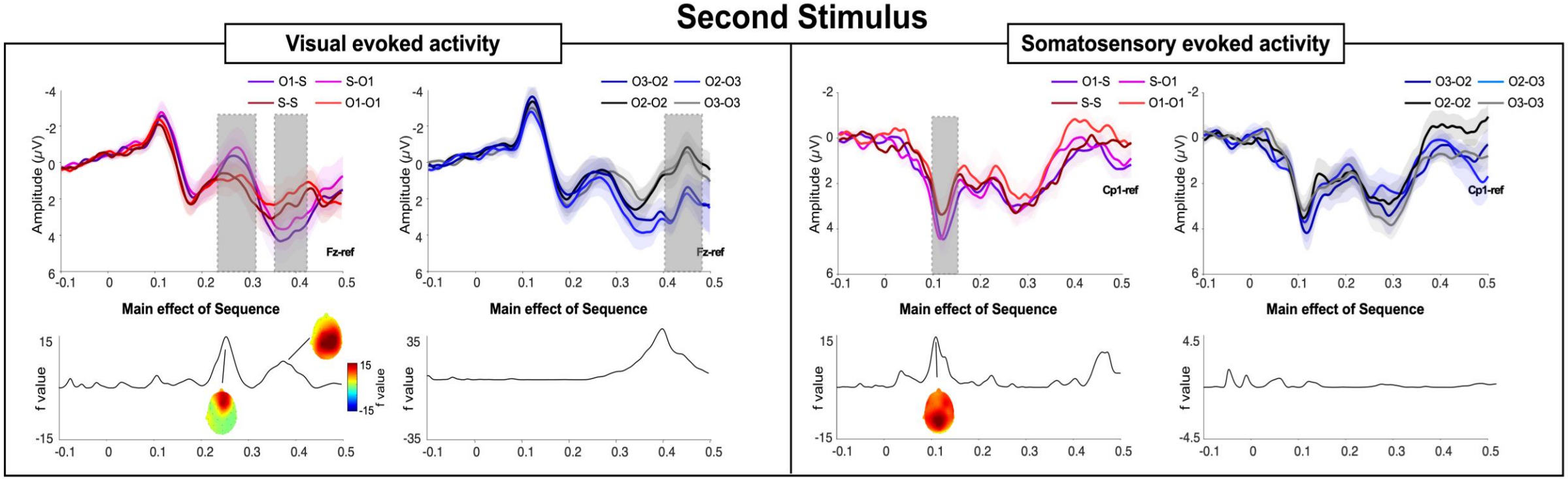
Subjects appeared **faster in discriminating visual stimuli** when they represented the **self hand**

Electrophysiological Results



Greater VEP-free SEPs when presenting the **Self-hand** as compared to the Other's hand

Electrophysiological Results



Self-hand recognition **boosts** visual change detection

Self-hand recognition **elicits** a sort of somatosensory change detection

Conclusions

Self-hand recognition is not merely visual

ERP data seem to show that implicit **self recognition relies on somatosensory information**

Self-hand recognition selectively modulates **somatosensory activity**, thus revealing a **tactile knowledge** of the visual self

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Thank you for your attention!

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