Dynamic Extrapolation Of Motion Information In A Predictive Framework

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Outline

- Main approach
- Motivation of current study
- The experiment
- The results
- Next steps

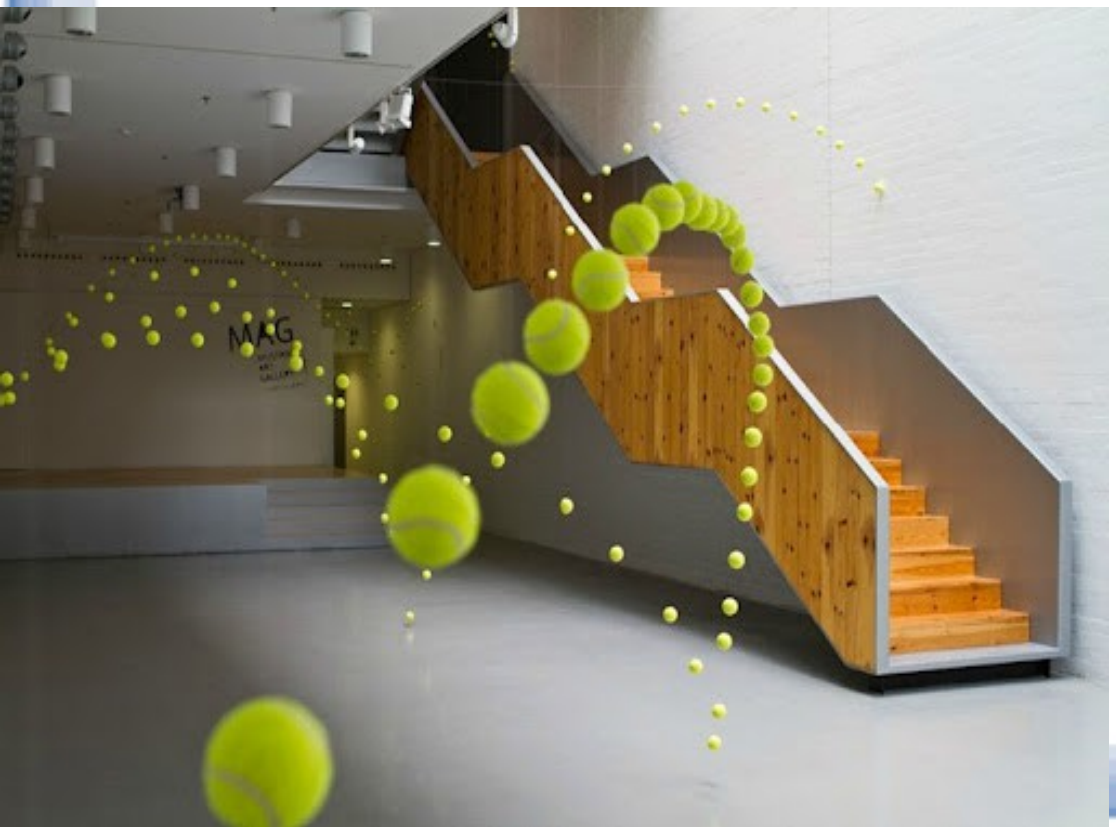
Main approach

* Predictive approach based on smooth trajectories

    * Emergent neural computations

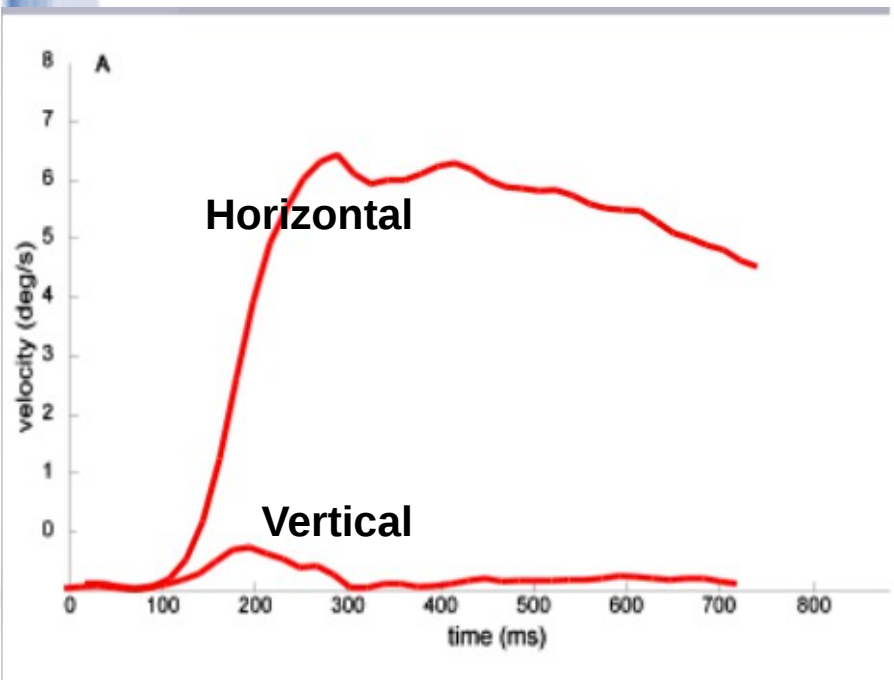
        * The role of prediction and its sufficiency

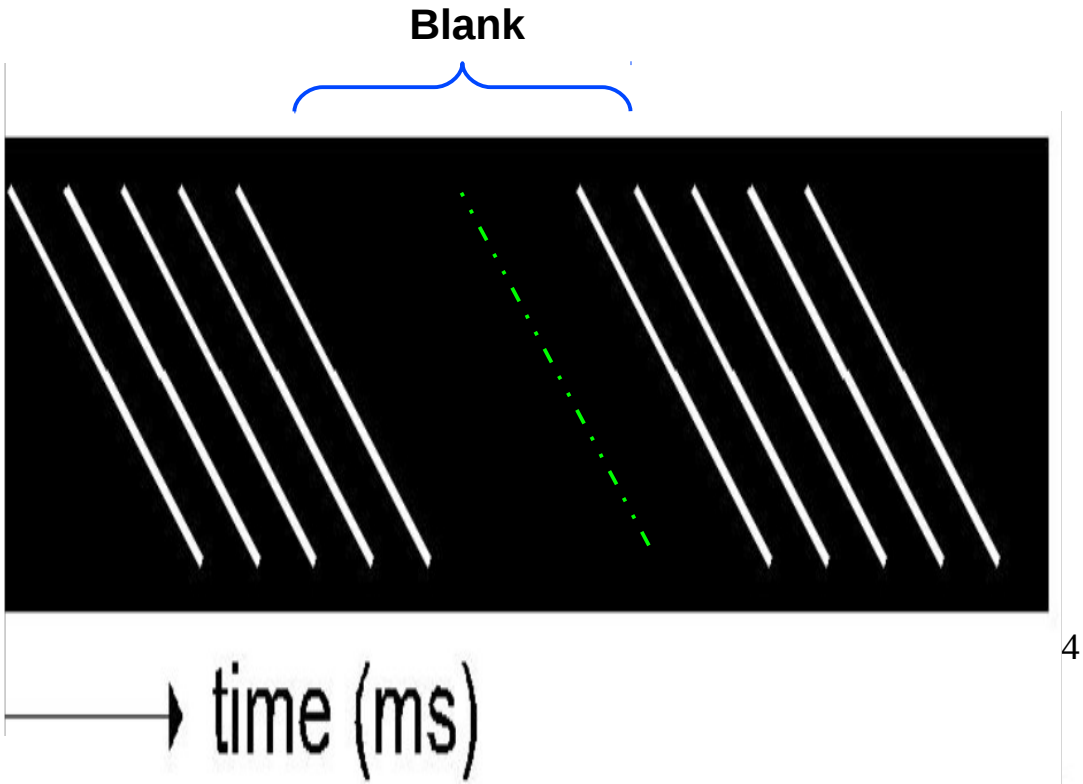
            * Aperture problem



Motivation

- Motion Integration in blanked trajectories

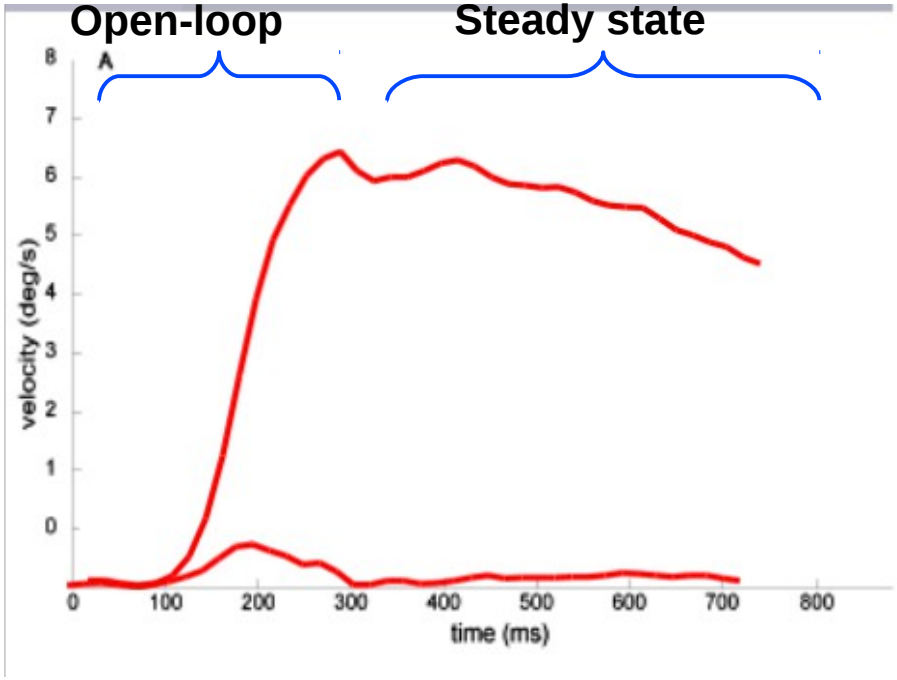


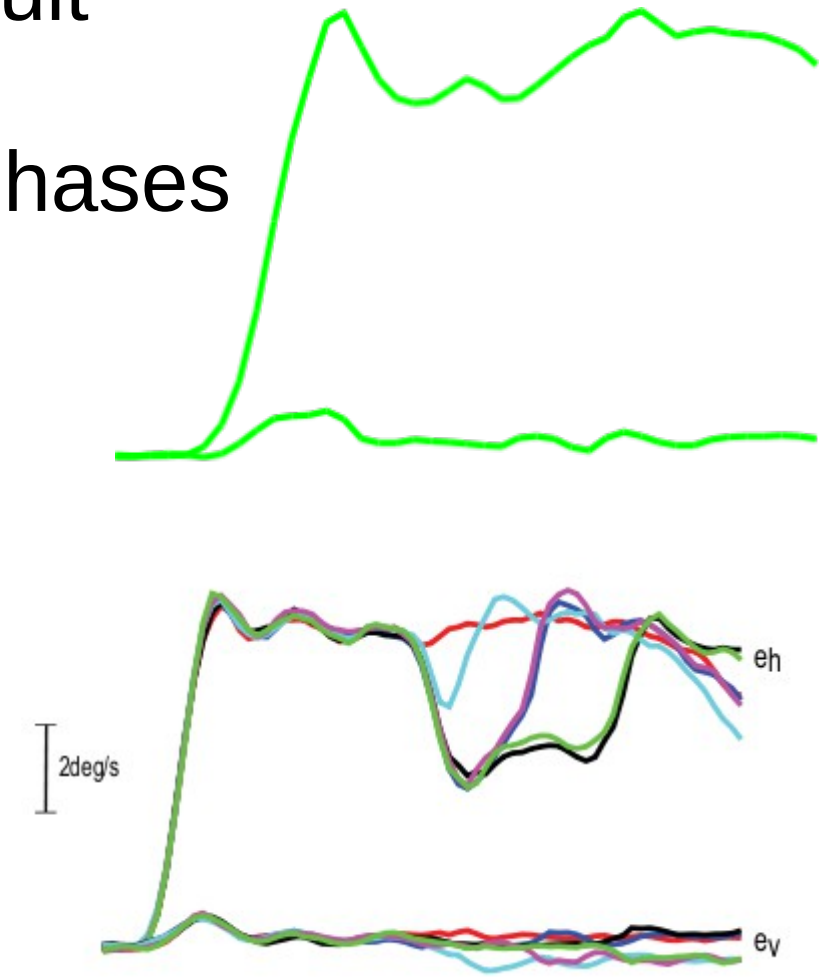


Motivation

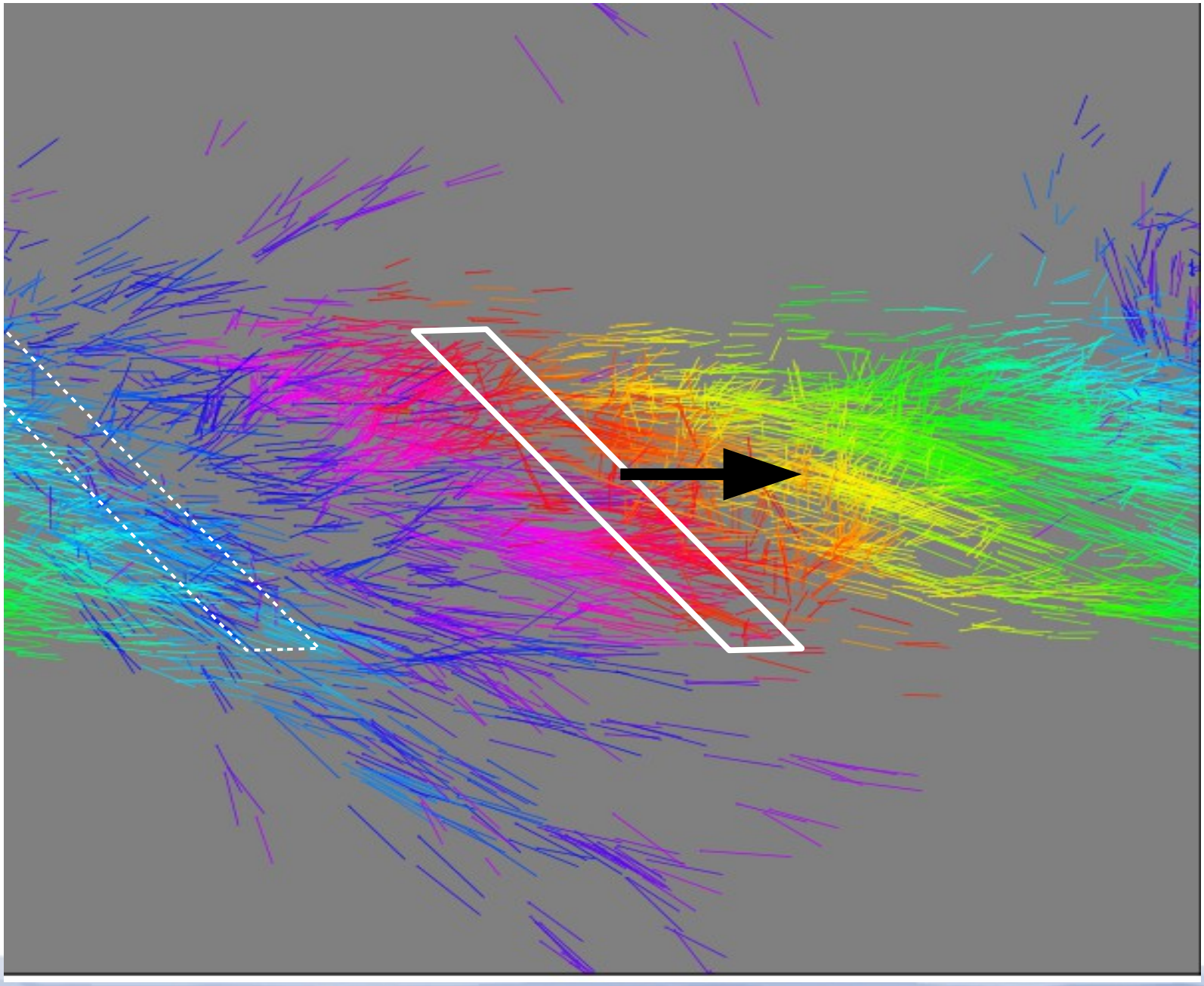
- Dynamic interaction of Retinal and Extra retinal signals during smooth pursuit

- Blanking in early and late phases

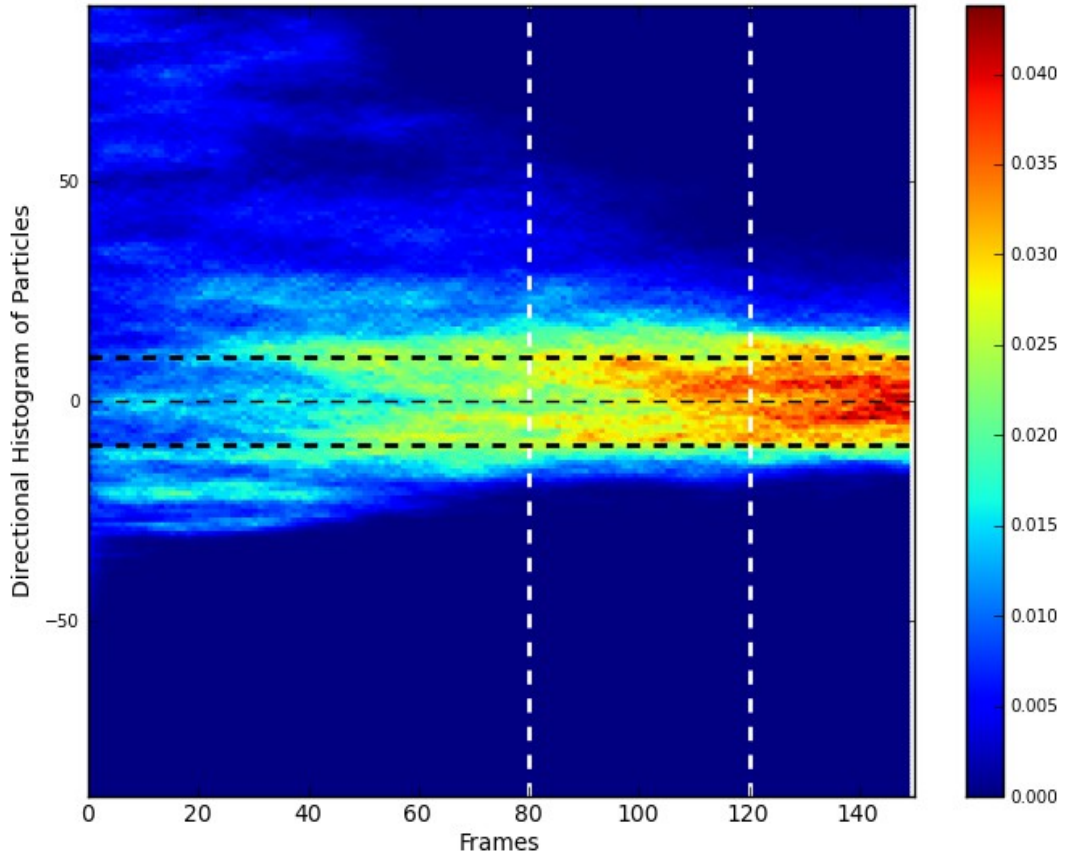


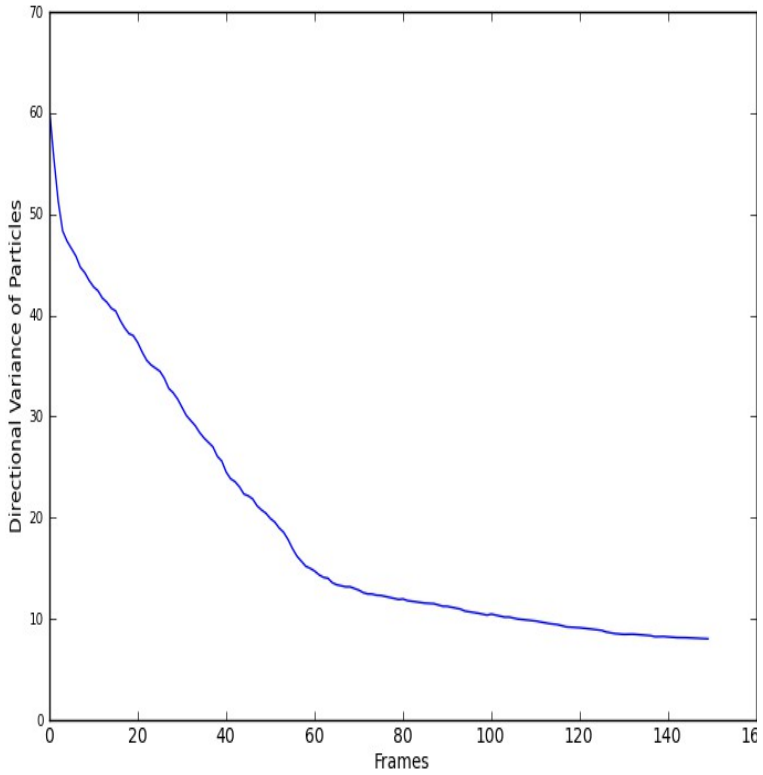


Simulated Experiment

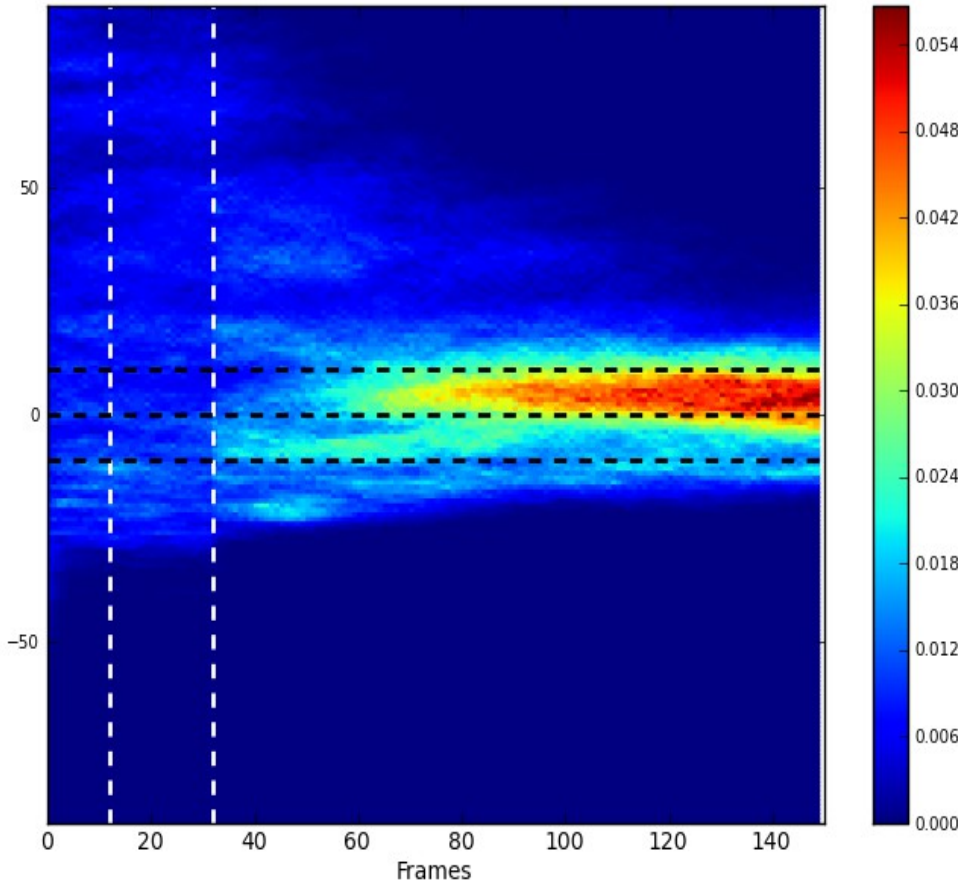


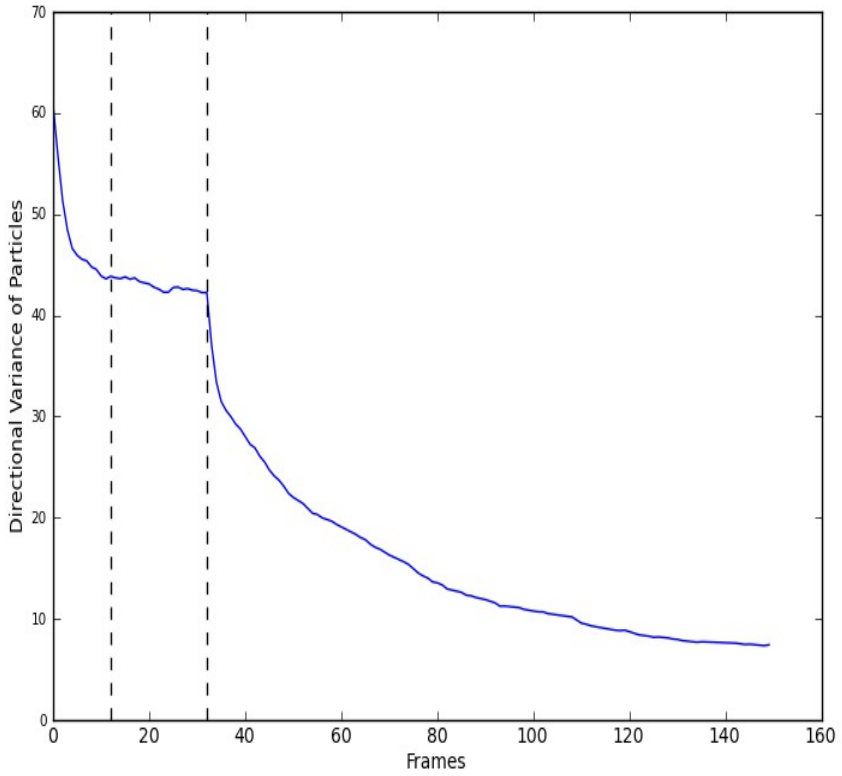
Results:
No blank- Control condition



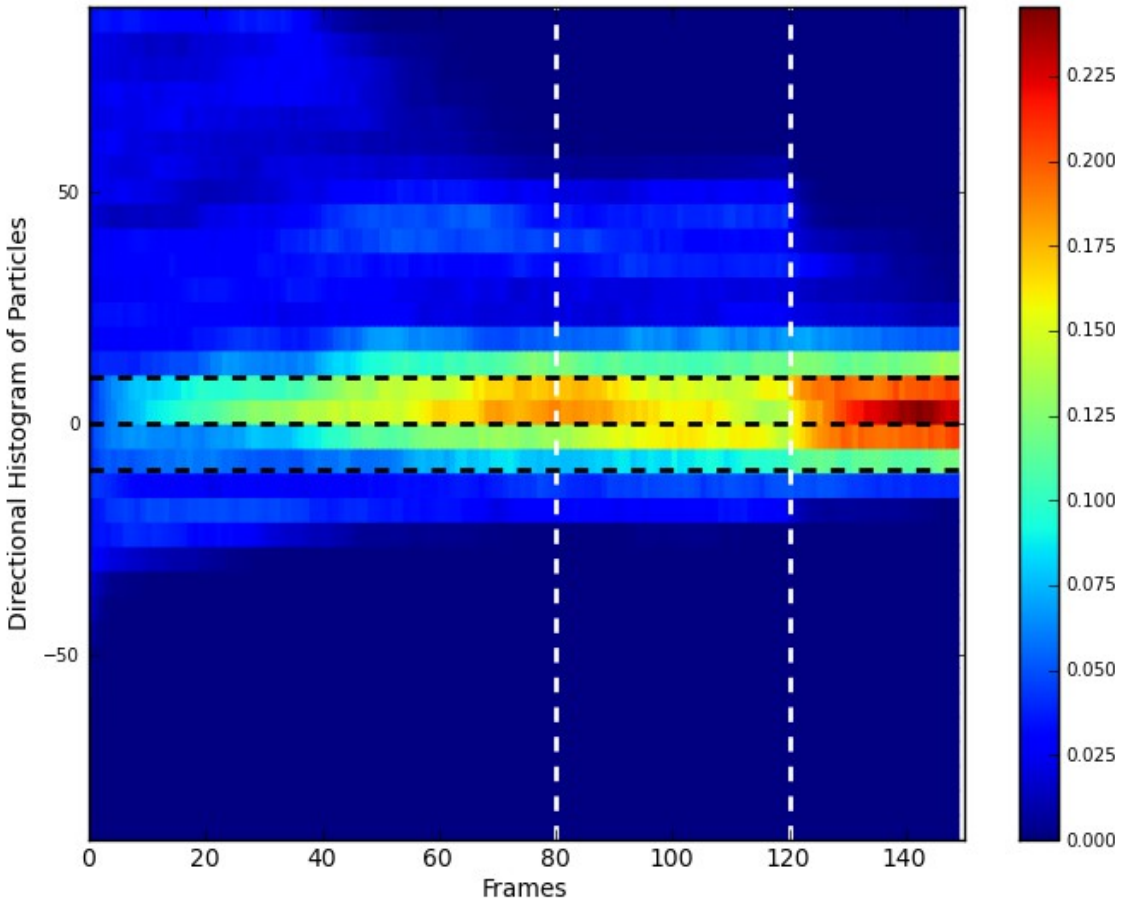


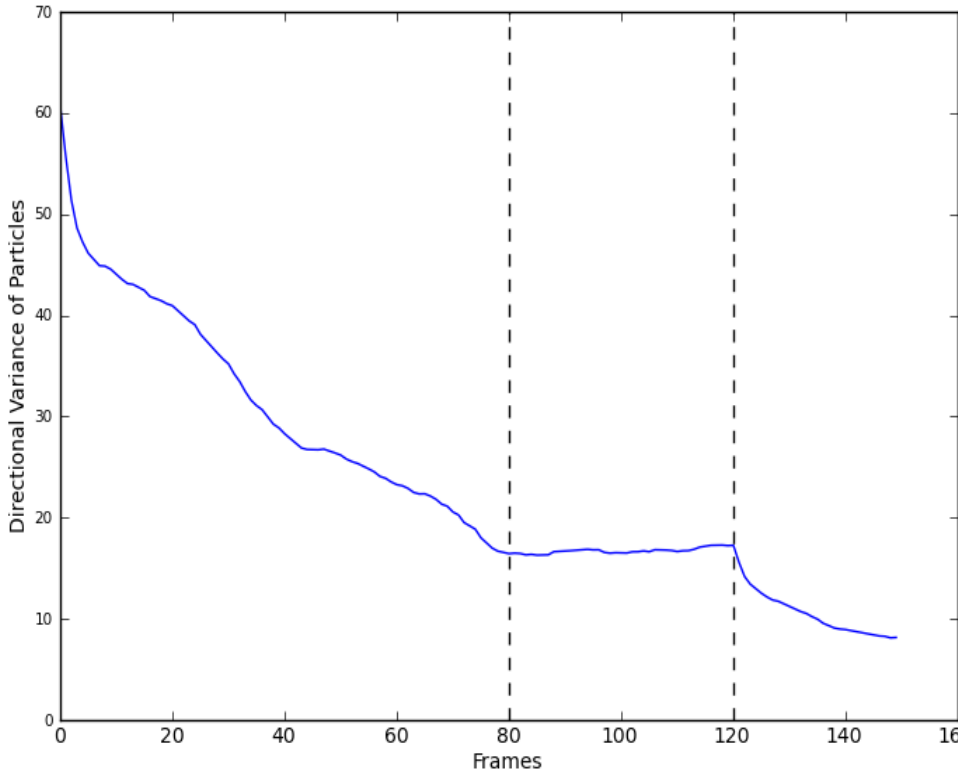
Results:
Early Blank- Blank at open loop phase



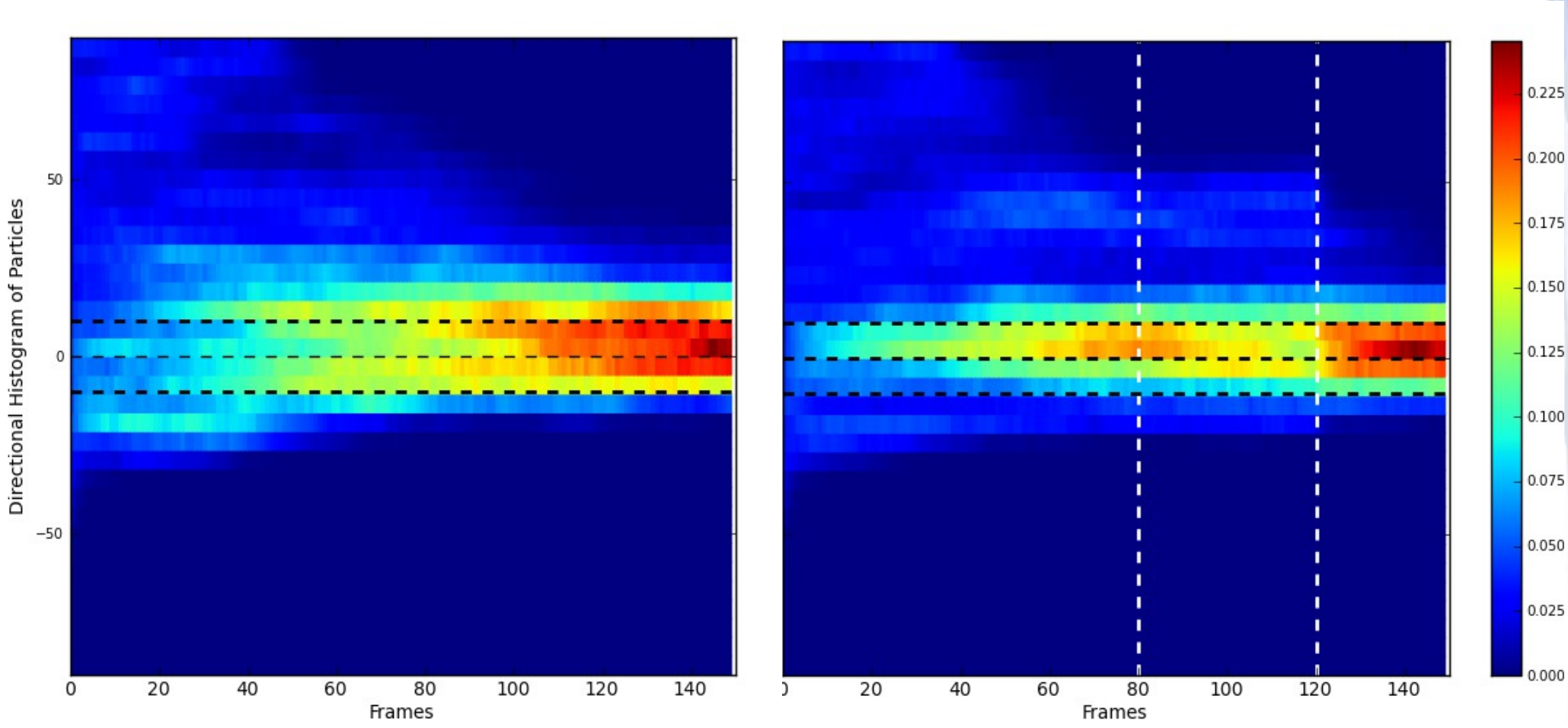


Results:
Late blank-Blank at steady state

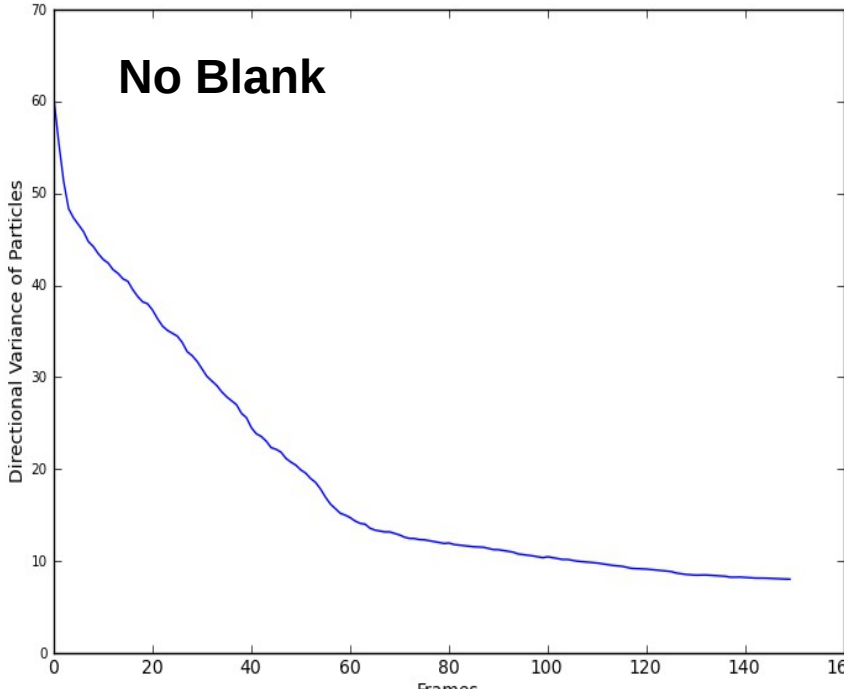


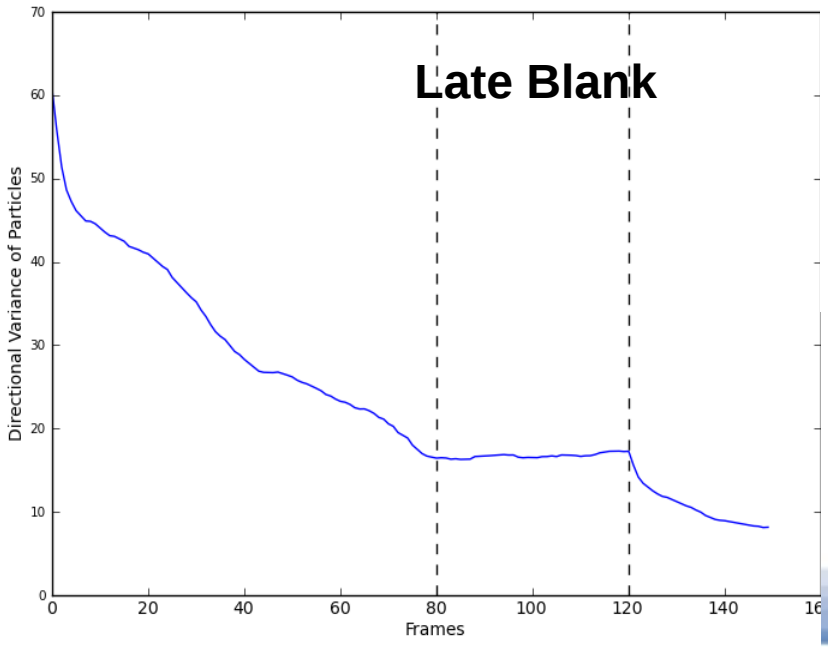


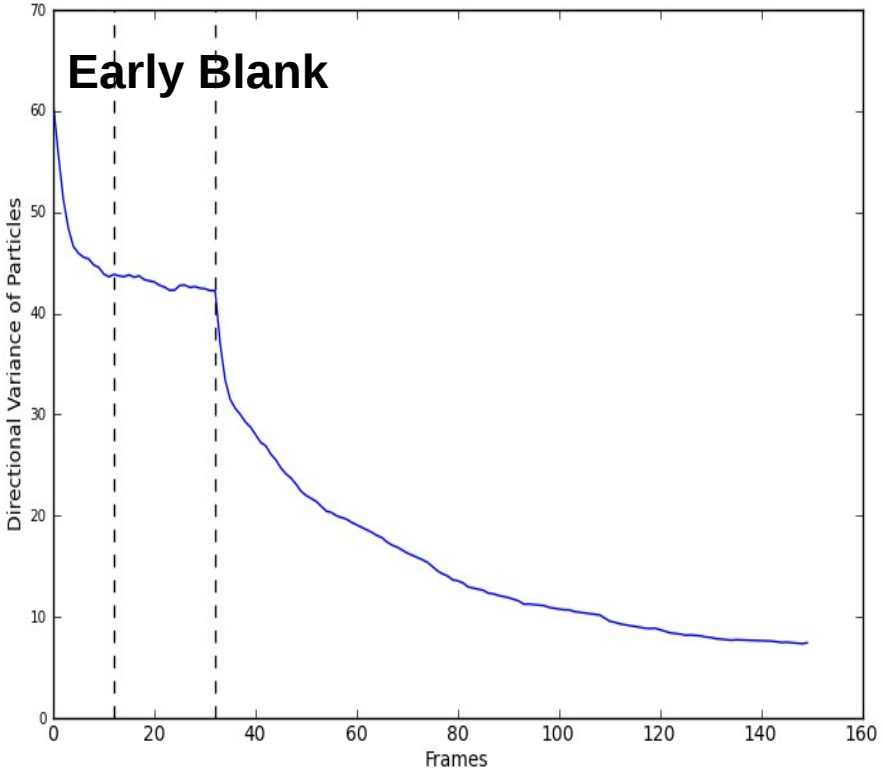
Results:
No blank versus
Late blank (Blank at steady state)



Directional Variance of sensory information







Next steps

1- Investigation motion extrapolation in more complex conditions like:

- changing orientation of bar after reappearance
- changing the direction of motion after reappearance
- to study the threshold durations of blank

2- Adding a feedback to model

Merc!