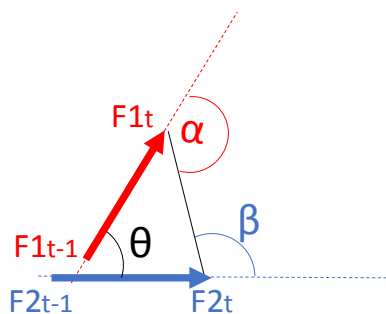


A



θ : Angle between two vectors: $\overrightarrow{F1_{t-1}}$ & $\overrightarrow{F1_t}$

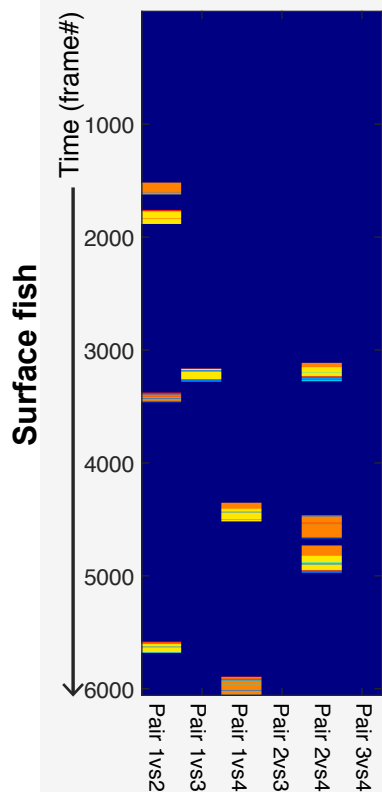
α : Angle between two vectors: $\overrightarrow{F1_{t-1}}$ & $\overrightarrow{F1_t F2_t}$

β : Angle between two vectors: $\overrightarrow{F2_{t-1}}$ & $\overrightarrow{F2_t F1_t}$

B

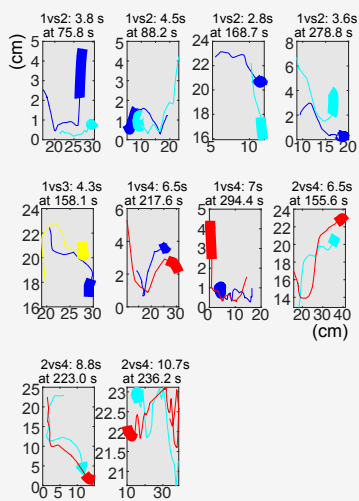
$\cos\theta > 0$	$\cos\alpha < 0$ and $\cos\beta < 0$		Two fish disperse
	$\cos\alpha > 0$ or $\cos\beta > 0$	$\cos\alpha < \cos\beta$	Fish1 leads
		$\cos\alpha > \cos\beta$	Fish2 leads
$\cos\theta < 0$	$\cos\alpha > 0$ and $\cos\beta > 0$		Two fish gather
	$\cos\alpha < 0$ or $\cos\beta < 0$		Swim in inverse directions

C

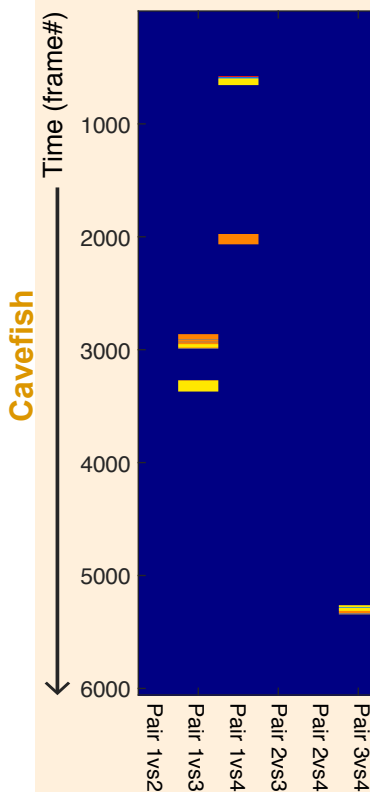


D

Cut-off duration: ≥ 4 s
Cut-off distance: ≤ 5 cm



E



F

Cut-off duration: ≥ 4 s
Cut-off distance: ≤ 5 cm

