Data used in the publication: Harpaz et al, (2024) Experience-dependent modulation of collective behavior in larval zebrafish

Free swimming experiments:

Data is saved as native .mat (Matlab) files. Files are named by group size and conditions-

Free_swimming5 – groups of 5 fish.

Free_swimming20_5 – groups of 5 fish redistributed from groups of 20 fish.

Free_swimming20 – groups of 20 fish.

Free_swimming5_20 – groups of 20 combined from groups of 5 fish.

Each data file contains variables 'x','y', and 'angle' which are the cartesian coordinates (in cm) and heading orientations (in degrees) of the fish. Each variable is a 3d array with group id, fish id, and time as the array dimensions. Data is saved at 30 frames per second.

Virtual reality experiment:

Data is separated into various subfolders according to the different VR experiments. For each experiment there exist 2 files:

fish_data.mat containing 3 variables – 'x','y', and 'ori' which are the cartesian coordinates (normalized between -1 and 1, and the heading orientations (in degrees) of the fish. Each variable is a 2d array with fish id and time as the array dimensions. Arena diameter is 6.5 cm, and data is saved at 90 frames per second.

stim_coor.mat containing 2 variables – 'x_stim', 'y_stim' which are the cartesian coordinates (normalized between -1 and 1) of the virtual neighbors.

For experiments in which a single dot is used as stimulus (e.g. Fig 3b-c), a third variable – 'Side', is included. 'Side' is a vector if 1xNpresentations, with entries that indicated the side of the presented dots (0 – right, 1 left).

List of included experiments and the relevant figure in publication:

Experiment name:	**Datasets included** (+ matching stim_coor files)	**Experiment description**	**Example figures in paper**
Density switches	Fish_data20, fish_data20_5, fish_data5, fish_data5_20	Density switches mimicking free swimming experiments.	Fig. 2a-d

5_20T_5	fish_data20_5min, Fish_data20_10min, Fish_data20_20min, Fish_data20_40min	Effects of increasing exposure time of high density	Fig. 2e
5_20_5_for2hours	Fish_data	Measuring the stability of induced behavioral modulation	Fig. 2f
5_20_0T_5	Fish_data0_0min, Fish_data0_10min, Fish_data0_20min, Fish_data0_50min	Reversing the effects of high density by introducing increasing time of 0 neighbors	Fig. 2g
Motion energy 5_rings20_5, 5_stationary20_5, 5_stationary_growing_5	Fish_data	Isolating specific motion statistics that induce modulation	Fig. 3a
Motion energy single dot moving, single dot moving closer, single dot growing	Fish_data, Side	Isolating specific motion statistics that induce modulation by using a single dot stimulus	Fig. 3b-c
Additional data			
5_20_5_0_5	Fish_data	Inducing and reversing behavioral modulations	Fig. S2g-h
5_5Big_5	Fish_data	Effects of same density but larger dot size	Fig. S3a
5_5speedx1_5, 5_5speedx2_5, 5_5speedx4_5	Fish_data	Effects of same density but increased speed of dots	Fig. S3b
5_20_5, 5_40_5	Fish_data	Effects higher density levels	Fig. S3d