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Modelling complex spatial animal group patterns: the role of different communication mechanisms

Signal reception is essential for the formation and movement of animal groups. I will present a one-dimensional hyperbolic model for group formation that incorporates different mechanisms for the reception of signals emitted by group members. Numerical simulations reveal a wide range of spatial patterns that can form. Some of these are classical patterns, such as traveling waves, or stationary pulses. There are also new patterns, such as breathers, ripples zigzag pulses, or semi-zigzag pulses.