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Distributed and bio-inspired control for collective motion in swarm of drones

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Context

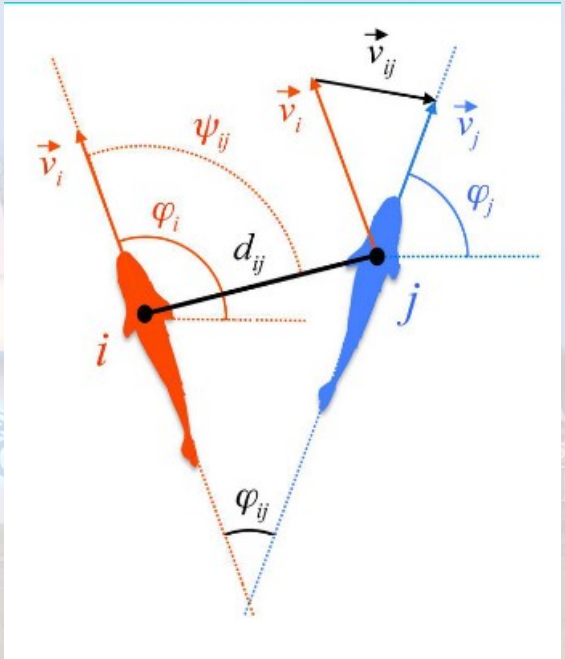
Decentralized

Reactive algorithm

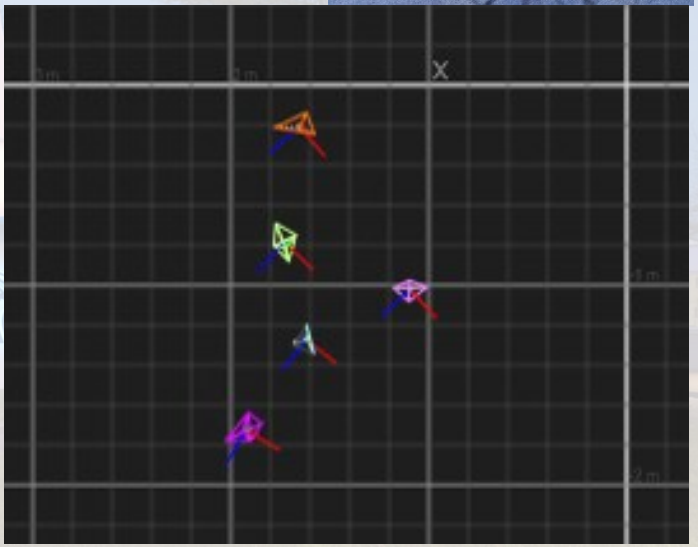
- Interactions at local scale
- Emerging global behaviour
- Flexibility and resilience to external unjnown constraints

The fish model

- Hemigrammus rhodostomus
  - Burst and coast motion
  - Only interacts with a small number of neighbors
  - High cohesion and polarization at large scale
  - Can perform phase transitions whose inspiration can lead to environment adaptation



From fish to UAV



- Adaptations for our system
  - Adaptations of the paremeters
  - Higher short distance repulsion
  - Speed interaction
  - Find the parameters responsible of the phase transitions
  - Addition of a migration term for navigation purposes

References & publications

REFERENCES

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PUBLICATIONS AND CONFERENCES

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