RL Model → SC Model

1 State vs. Knowledge Base

1.1 Local Knowledge

Let's look at the Multi-Agent Reinforcement Learning (MARL) case. States are joint-states of all the agents. Rewards can be configured to correspond to each joint action. Assumption is agent A does not know the action of agent B. Environment is non-stationary.
In our state representation, we also consider a joint state+action, meaning that the difference between local and joint knowledge base is not highlighted. To my knowledge, this distinction is not considered yet in current MARL work.

1.2 Environment Knowledge Base

- **clock(t)** refers to the current step.
- **atloc(id,pos)** is state[id].
- **speed(id,spd)** is state[id+agents].
- **maxAcc(id,acc)** is fixed to +1/-1.
- **platoon(idL,...)** is fixed to platoon(0,[1]).
- **mode(id,md)** not considered.
- **safe(id,min,max)** not considered. Goal.

1.3 Communication Channels and Protocols

Since no distinction exists between local and joint, it is assumed that communication is not faulty and moreover, open at every timestep.

2 Attacks

To consider next.