Supplementary data for the paper "Safe Multi-Agent Drone Control Using Control Barrier Functions and Acceleration Fields"

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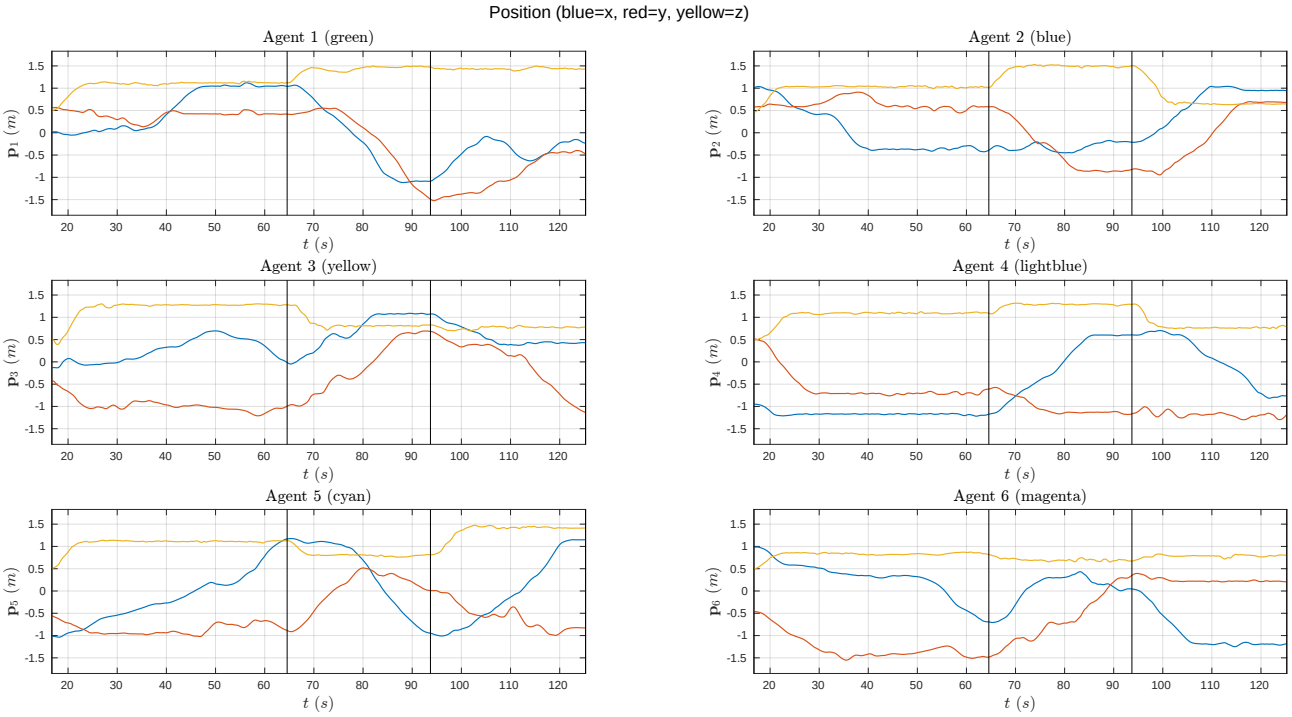

Figure 1: Position $\mathbf{p}_i$ for all agents. Vertical bars separate the three phases, with different setpoints each.

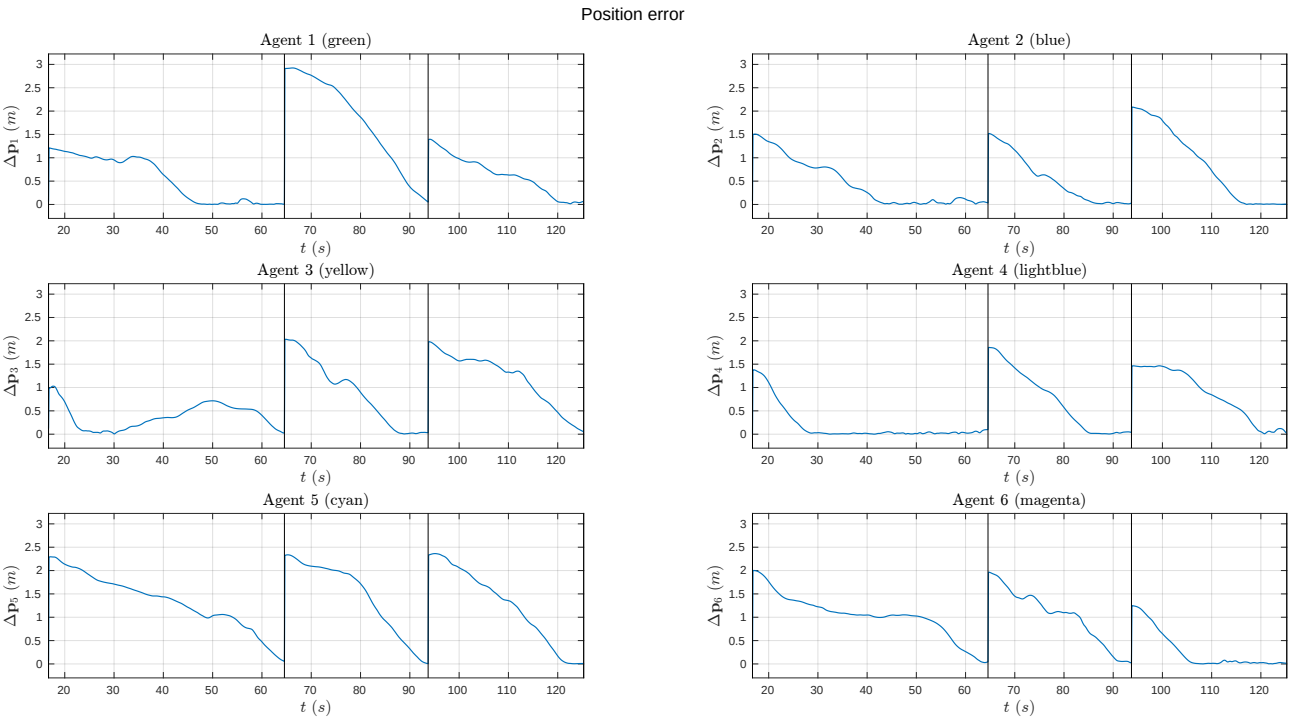

Figure 2: Position error $\Delta\mathbf{p}_i$ for all agents. Vertical bars separate the three phases, with different setpoints each.

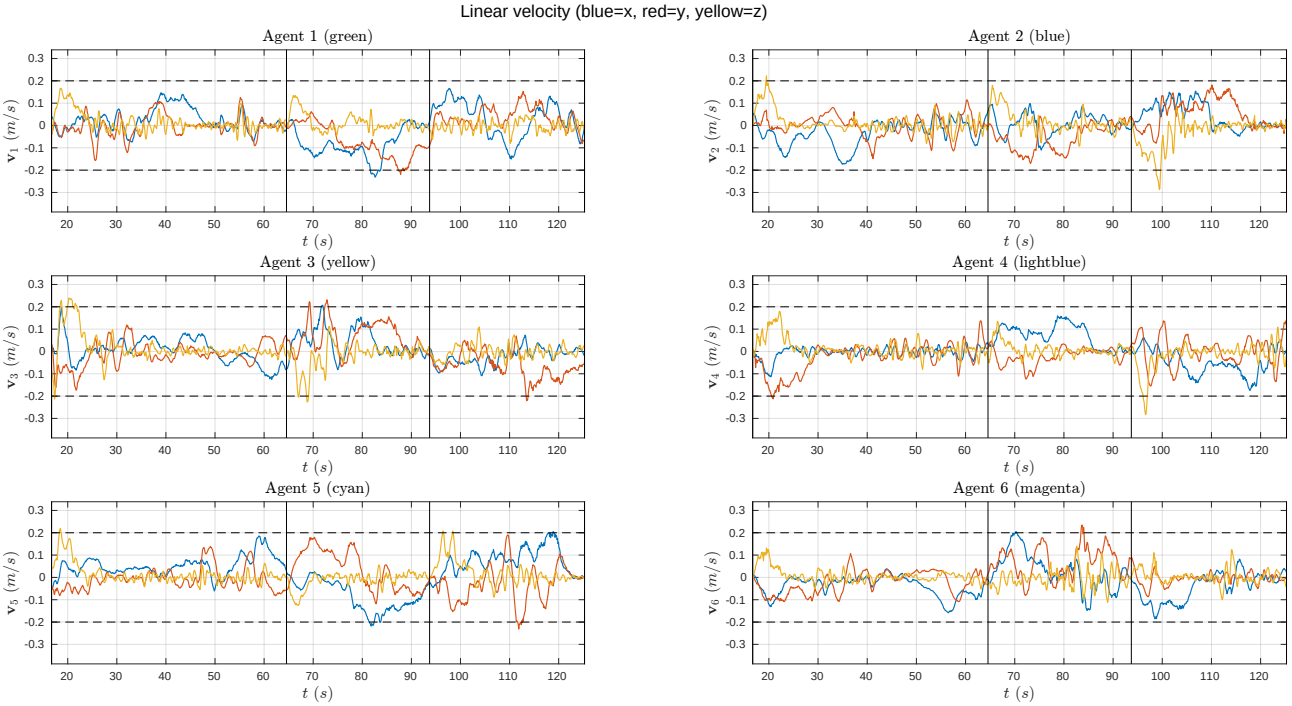

Figure 3: Linear velocity $\mathbf{v}_i$ for all agents. Vertical bars separate the three phases, with different setpoints each. Horizontal dashed bars displays the velocity limits for each component: 0.2 m/s.

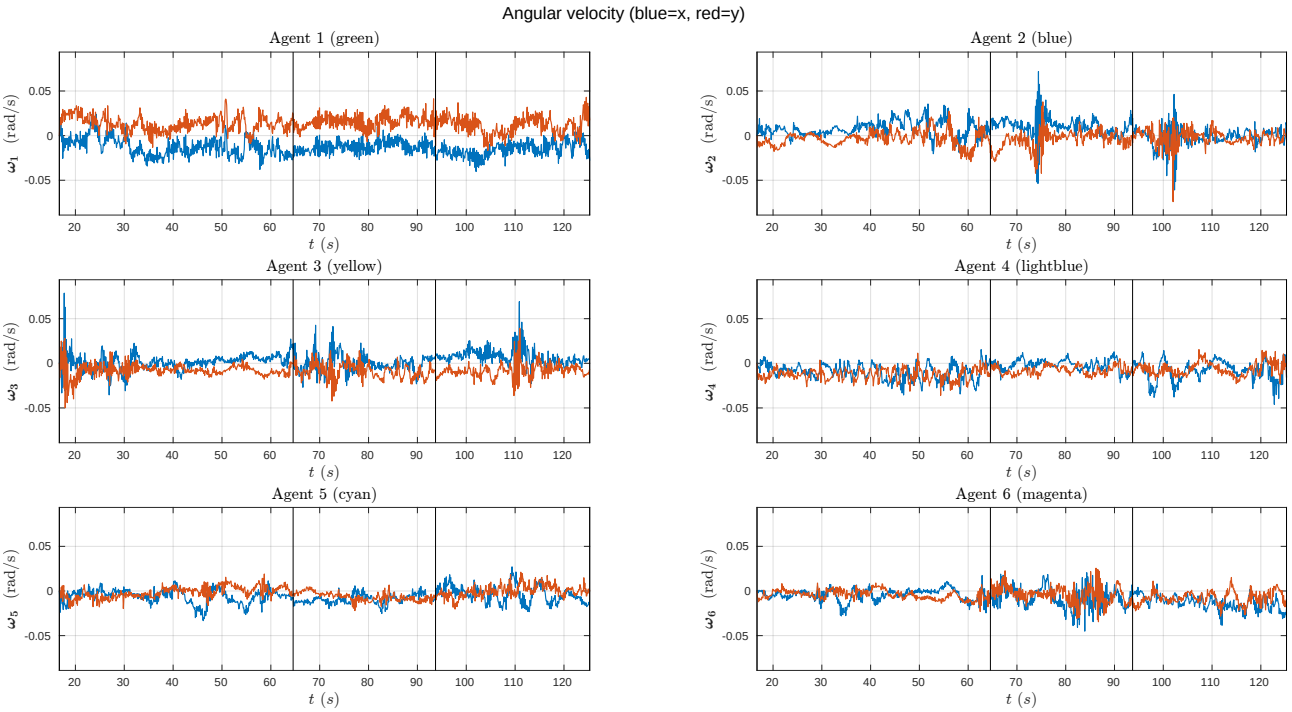

Figure 4: Commanded angular velocity $\boldsymbol{\omega}_i$ for all agents. Vertical bars separate the three phases, with different setpoints each. The z component for the angular velocity is always very close to zero, and therefore not shown.

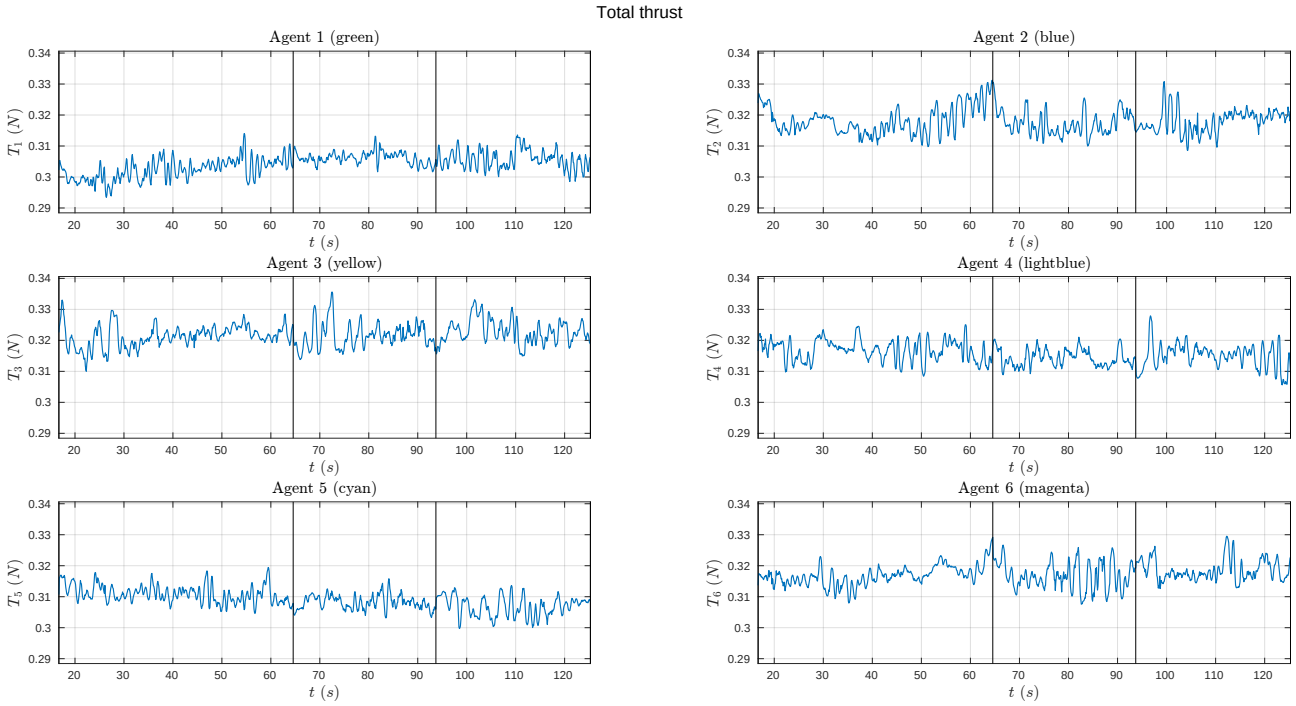

Figure 5: Commanded total thrust T_i for all agents. Vertical bars separate the three phases, with different setpoints each.

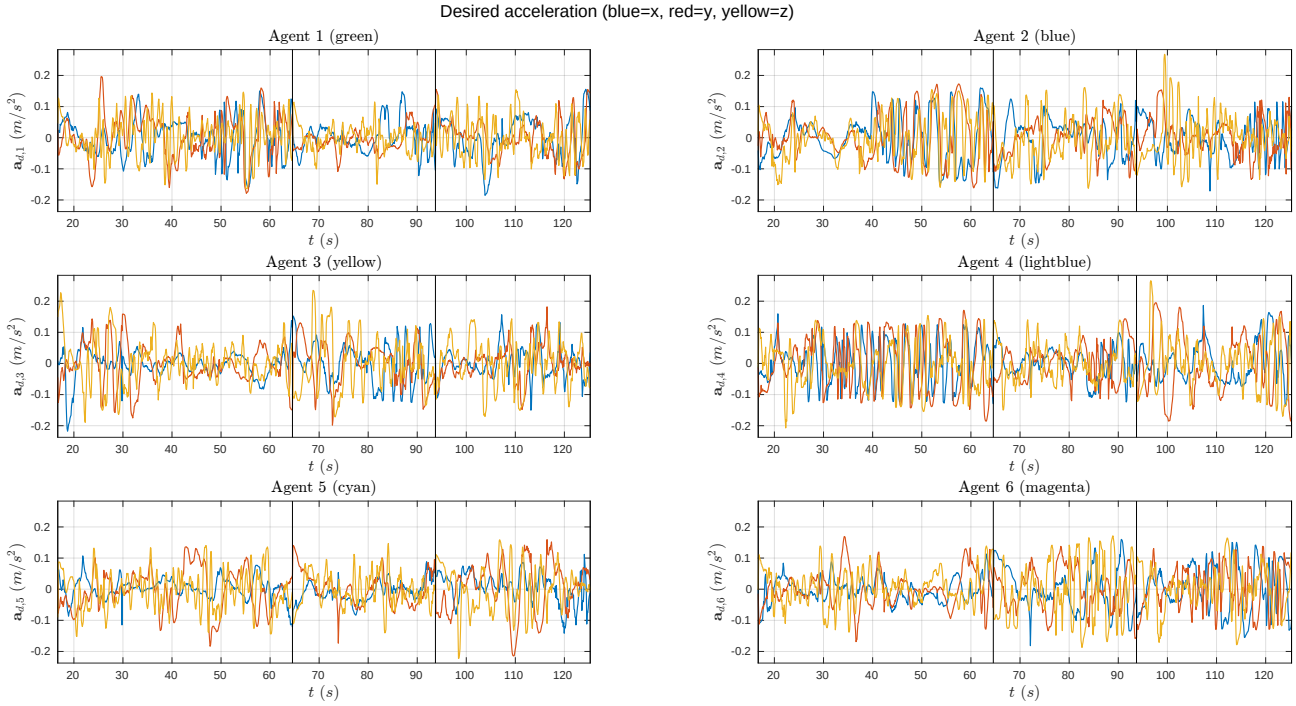

Figure 6: Desired acceleration $\mathbf{a}_{d,i}$ for all agents. Vertical bars separate the three phases, with different setpoints each.

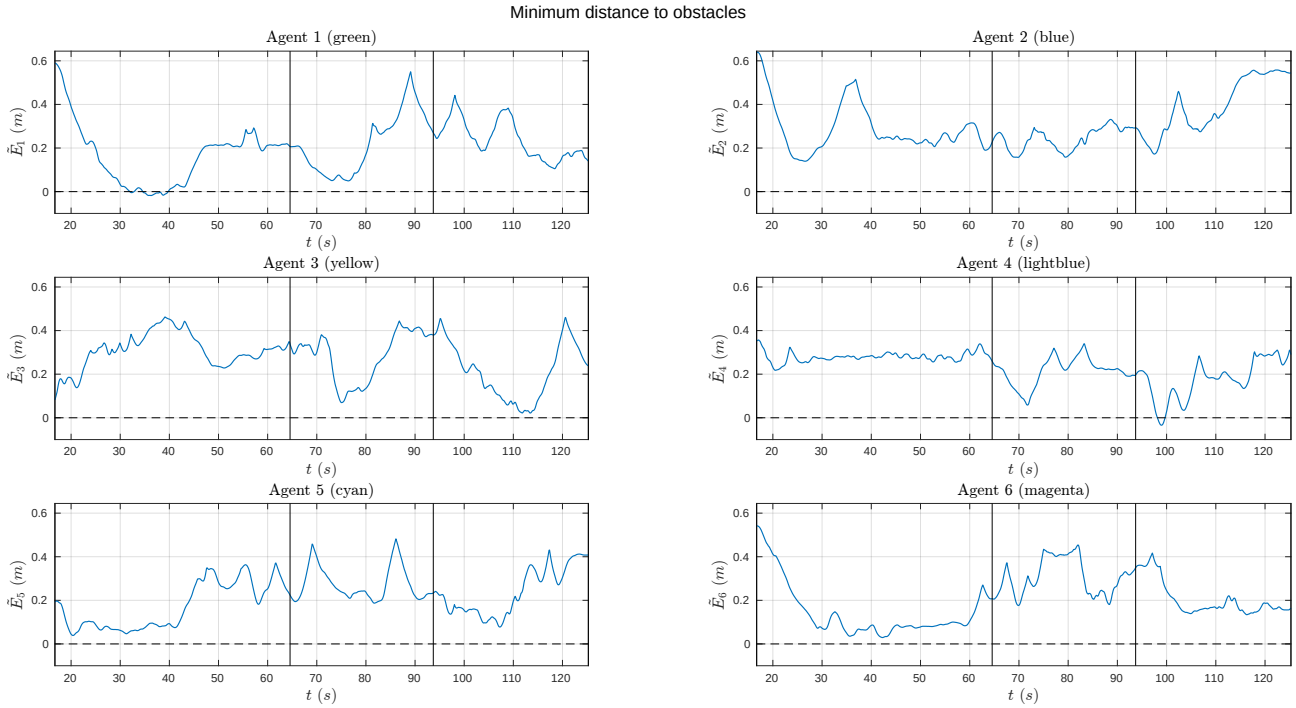

Figure 7: Minimum distance to the obstacles $\tilde{E}_i$ for all agents. This is computed as the minimum signed distance to each spherical obstacle, and thus can be negative when the objects overlap. Vertical bars separate the three phases, with different setpoints each.

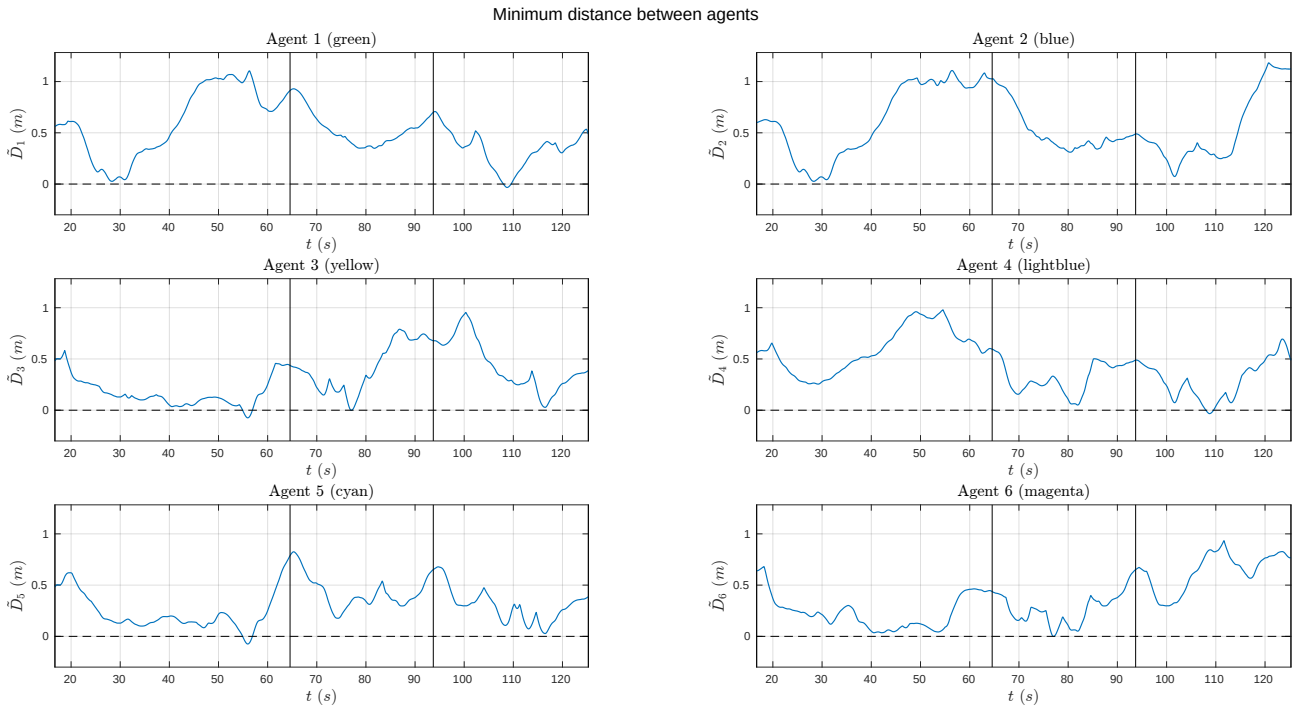

Figure 8: Minimum inter-agent distance between the agents $\tilde{D}_i$ for all agents. This is computed as the minimum signed distance between each one of the cylinders that represent the agents in inter-agent collision, and thus can be negative when the objects overlap. Vertical bars separate the three phases, with different setpoints each.