

OFF ROAD STEERING

Steering performance

Agriculture Use Case



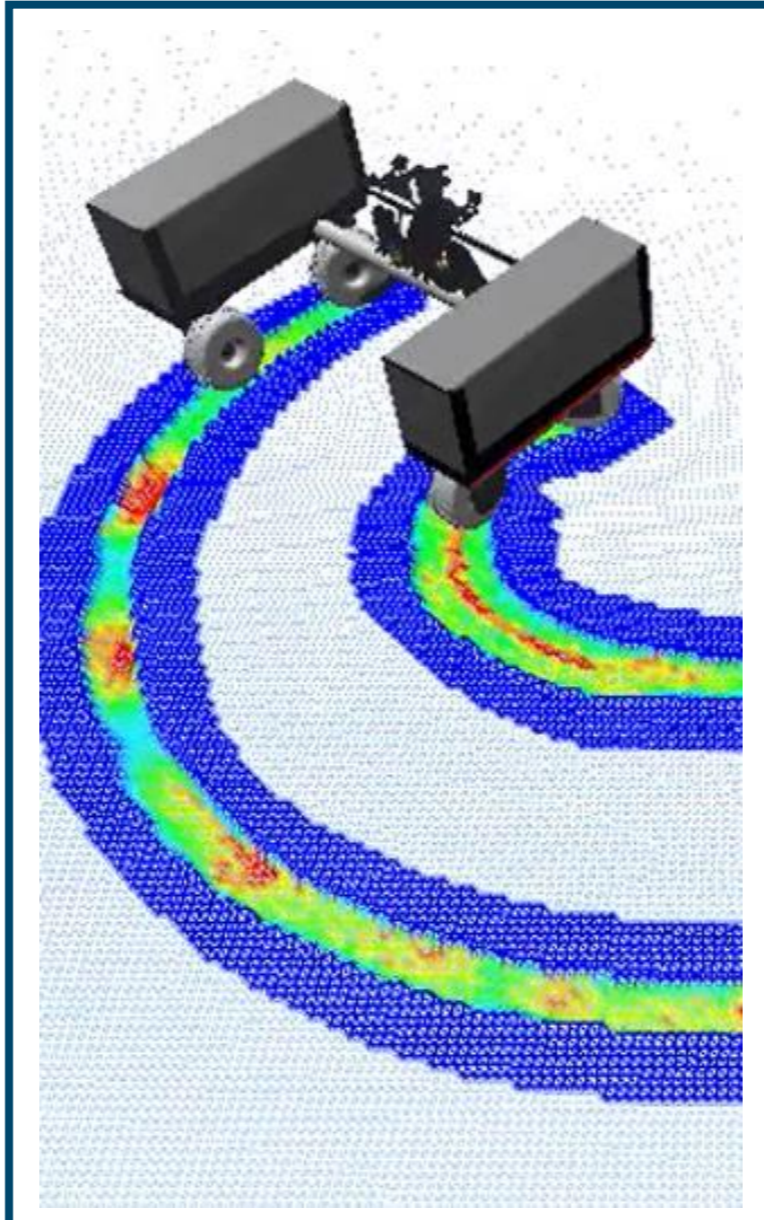
AGROINTELLI



System simulations of off-road steering are systems of high complexity and a high level of interaction. The goal is to improve steering performance in varying off-road conditions.



UPSIM will gain credibility in off-road steering performance simulations by validating the Digital Twin Readiness Level, contributing to Function-to-Simulation and Continuity Function-to-Reality-Continuity.



PROGRESS

- Improvements to the hydraulic model have been made to increase its fidelity.
- Controller model is still underway
- Models are currently being tested with real data to solve driving performance issues.
- FMU wrapping has been initiated
- Currently investigating RTK GPS issue. GPS correction signal will start as not being RTK and then later, then it will change to RTK. The causes the path of one of the rows to 'hop' x cm to the left or right. We don't receive whether or not the GPS is in RTK or GPS in the correction signal. In progress to find a solution (outside of project work)

FUTURE WORK

- Wrapping the models in FMUs
- Defining the interface
- Feeding model recorded data
- Testing the models against real Robottis
- Updating the model