**PAYLOAD**

INTRO

***- On the Effect of Flexibility on the Dynamics of a SuspendedPayload Carried by a Quadrotor***

Since the payload dynamics can alter the flight performance, sensor measurement accuracy and payload integrity, an adapted sliding mode control is used to guide the quadrotor on its desired trajectory and to compensate for the payload dynamics.

In the presence of attached loads such as sensors or compartments to carry medical goods and organs, the quadrotor dynamics can be significantly altered, creating unwanted vibration in the system

[*Geronel, R.S.; Bueno, D.D. Trajectory Tracking of a Quadcopter with an Attached Payload Mass under External Disturbances. InProceedings of the 2021 14th IEEE International Conference on Industry Applications (INDUSCON), São Paulo, Brazil, 15–18August 2021; pp. 1288–129*].

* *Development of a Quadrotor Slung Payload System*

When rigidly connecting the payload to UAV body, it will not only affect the mass, but the inertia as well. However, for heavier payloads, this may increase the rotational inertia of the vehicle significantly. For a conventional multi-rotor, translation of the vehicle is controlled by changing the vehicle’s attitude, pitching and rolling. By increasing the inertia of the vehicle, this will reduce the maneuverability, potentially reducing one of the prime advantages of the multi-rotor platform