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**Ozkan Ozturk\*** (ozturko@mst.edu), 2024 Highway E, Apt B, Rolla, MO 65401, and **Haci Mehmet Guzey**. *Optimal Control of Quadrotor Unmanned Aerial Vehicles on Time Scales*. Preliminary report.

In this paper, an optimal controller is developed for quadrotor unmanned aerial vehicles (UAVs) on time scales. The UAVs are assumed to have desired positions and orientations and the proposed controller is used to bring the UAVs to the desired positions and orientations by minimizing a cost function on time scales. The proposed controller will be able to work for generalized time scales such as the discrete time intervals with time varying sampling interval. This will provide several benefits such as computational cost reduction in real time applications. The effectiveness for our optimal controller of quadrotor UAVs is demonstrated in a simulation, which validates our theoretical claims. (Received September 06, 2016)