Stabilization of a Quadcopter

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***Abstract*—The abstract goes here.**

I. Introduction

This demo file is intended to serve as a "starter file" for IEEE conference papers produced under LaTeX using IEEEtran.cls version 1.8b and later. I wish you the best of success.

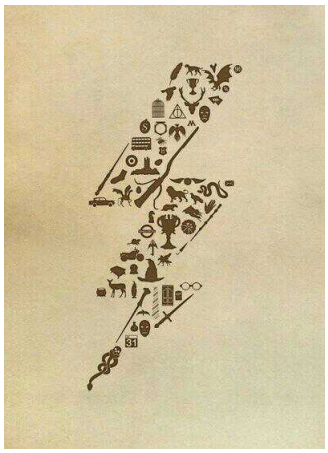

Figure 1: Location of the center of mass, where $\theta_1 = 0,043$ rad and $\theta_2 = 0,078$ rad.

Characteristics	**Value** [Unit]
Nominal output current	5 [A]
Peak current (<20 s)	15 [A]
Current control PWM frequency	53,6 [kHz]
Sample Rate of PI current controller	53,6 [kHz]

Table I: Important parameters of the motor control board.

$$\mathrm{J_F}\ddot{\boldsymbol{\theta}}_{\mathbf{F}} = -\mathrm{B_F}\dot{\boldsymbol{\theta}}_{\mathbf{F}} + \mathbf{l_F} \times (\mathrm{m_F} \cdot \mathbf{g}) + \mathbf{l_w} \times \mathbf{F} - \boldsymbol{\tau}_{\mathbf{m}} + \mathrm{B_w}\dot{\boldsymbol{\theta}}_{\mathbf{w}} \quad [\mathrm{N \cdot m}] \tag{1}$$

$$\begin{aligned}\tau_{\mathrm{m}}[\mathrm{n}] = {} & -8{,}314 \cdot \mathrm{e}_\theta[\mathrm{n}] + 7{,}422 \cdot \mathrm{e}_\theta[\mathrm{n}-1] + 8{,}3023 \cdot \mathrm{e}_\theta[\mathrm{n}-2] \\ & -7{,}434 \cdot \mathrm{e}_\theta[\mathrm{n}-3] + 1{,}382 \cdot \tau_{\mathrm{m}}[\mathrm{n}-1] - 0{,}3415 \cdot \tau_{\mathrm{m}}[\mathrm{n}-2] \\ & -0{,}001\,638 \cdot \tau_{\mathrm{m}}[\mathrm{n}-3] \qquad [\mathrm{N \cdot m}]\end{aligned} \tag{2}$$

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II. Model

III. Discussion

The conclusion goes here.

Acknowledgments

The authors would like to thank...

References

[1] H. Kopka and P. W. Daly, *A Guide to LaTeX*, 3rd ed. Harlow, England: Addison-Wesley, 1999.