

Attitude and Position Control of a Quadcopter in a Networked Distributed System

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Introduction

In the last years, the interest for quadcopters has increased due to the great possibilities they offer. Among these, the most well-known ones are surveillance, inspection of big structures and search and rescue missions in difficult environments. A design that is able to make the quadcopter hover and move to a desired position is designed. The system’s coupled behavior and instability raises a challenging control task. This task is solved by implementing a controller design, this is linearized since it is desired to use linear controllers. The system is split into an attitude and translational model. These are controlled individually by state space and classical controllers respectively. The prototype gets its attitude and position from a motion tracking system based on infrared cameras, keeping the control in a micro processor on the quadcopter. This layout constitutes a distributed system, where network issues, such as delays and packet losses, are taken into account.

Methods

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Results

The following materials were required to complete the research:

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- Duis porta consequat lorem
- Eu facilisis est tempus quis

The materials were prepared according to the steps outlined below:

- Curabitur pellentesque dignissim
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Important Result

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Mathematical Section

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$$E = mc^2 \tag{1}$$

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$$\cos^3 \theta = \frac{1}{4} \cos \theta + \frac{3}{4} \cos 3\theta \tag{2}$$

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Conclusion

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Conclusion

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References

Acknowledgements

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Contact Information

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- Phone: +1 (000) 111 1111

PLACEHOLDER
L O G O

PLACEHOLDER
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Placeholder
Image

Figure 2: Figure caption

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Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table 1: Table caption

Placeholder