**REPUBLIC OF TÜRKİYE**

**MONTH YEAR**

**GAZİANTEP UNIVERSITY**

**GRADUATE SCHOOL OF NATURAL & APPLIED SCIENCES**

**M.Sc./Ph.D. in Department’s Name**

**TITLE OF THESIS**

**M.Sc. /Ph.D. THESIS**

**IN**

**DEPARTMENT’S NAME**

**NAME SURNAME**

**BY**

**NAME SURNAME**

**MONTH YEAR**

**TITLE OF THESIS**

**M.Sc. /Ph.D. Thesis**

**in**

**Department’s Name**

**Gaziantep University**

**Supervisor**

**Prof. Dr. Name SURNAME**

**Co-Supervisor (if any)**

**Prof. Dr. Name SURNAME**

**by**

**Name SURNAME**

**Month Year**

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**THESIS TITLE**

submitted by **Name LASTNAME** in partial fulfillment of the requirements for the degree of Master of Science or Doctor of Philosophy in **Name of the Department, Gaziantep University** is approved by,

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Director of the Graduate School of Natural and Applied Sciences …………..............

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# ABSTRACT

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**SURNAME, Name**

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**Supervisor: Prof. Dr. Name SURNAME**

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**…. pages**

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**Key Words:** Keyword 1, Keyword 2, Keyword 3, Keyword 4, Keyword 5

# ÖZET

**TEZİN BAŞLIĞI**

**SOYADI, Adı**

**Yüksek Lisans/Doktora Tezi, Bölüm Adı**

**Danışman: Dr. Öğr. Üyesi Adı SOYADI**

**İkinci Danışman: Doç. Dr. Adı SOYADI (varsa)**

**Ay Yıl**

**….sayfa**

Özet 100 kelimeden az, 1 (bir) sayfadan fazla olmamalıdır. Tek paragraf biçiminde ve Türkçe yazılmalıdır.

**Anahtar Kelimeler:** Anahtar Kelime 1, Anahtar Kelime 2, Anahtar Kelime 3, Anahtar Kelime 4, Anahtar Kelime 5.

##### DEDICATION

***‘’Dedicated to my family’’***

# ACKNOWLEDGEMENTS

I would like to thank my supervisor, Prof. Dr. …..for his guidance and support throughout the study. I am thankful for his encouragement and motivation.

I would like to express my love and gratitude to my family for their support, always best wishes.

This work is supported by …………………………………., through project …...

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# LIST OF SYMBOLS

|  |  |
| --- | --- |
| **α** | Alfa |
| **β** | Beta |
| **Ω** | Ohm |
| **π** | Pi |

# LIST OFABBREVIATIONS

|  |  |
| --- | --- |
| **A/D** | Analog to Digital |
| **B-SPM** | Bilinear Static Parametric Model |
| **CE** | Certainty Equivalence |
| **D/A** | Digital to Analog |
| **DC** | Direct Current |
| **DIN** | Dynamic Inertial System |
| **FD** | Fault Detection |
| **FDD** | Fault Detection Diagnosis |
| **FDI** | Fault Detection and Isolation |
| **FTC** | Fault Tolerant Control |
| **g-DIN** | Generalized Dynamic Inertial System |
| **ISE** | Integral Square Error |
| **ISR** | Interrupt Service Routine |
| **LQR** | Linear Quadratic Regulator |
| **LTI** | Linear Time Invariant |
| **MIMO** | Multi Input Multi Output |
| **MRAC** | Model Reference Adaptive Control |
| **MSE** | Mean Square Error |
| **PDJ** | Positive Diagonal Jordan |
| **PEA** | Parametric Eigenstructure Assignment |
| **PSUPA** | Power Supply/Power Amplifier Unit |
| **SISO** | Single Input Single Output |
| **SPR** | Strictly Positive Real |

# INTRODUCTION

## Motivation of Study

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**Figure 1.1.** Equivalent control system block diagram for time-varying gain control equivalent is system block diagram for time-varying gains.

There are wide varieties of control methods in FTC and an extensive research is still conducted. However the lack of a systematical approach is still an open problem. The equation sample can be given as follows:

  (1.1)

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 (1.2)

**Table 1.1.** Process parameters

|  |  |
| --- | --- |
| **Parameters** | **Value** |
| Tank height, *hmax* | 25 cm |
| Pomp voltage level | 0-5 V |
| Bottom area, Tank1, Tank2, *A1*, *A2* | 0.01389 m2 |
| Bottom area, Tank3, Tank4, *A3*, *A4* | 0.01389 m2 |
| Out pipe cross-sectional area, *a1,a3,,a2,a4* | 50.26e-6 m2 |
| Pomp constant, *k* | 2.2e-3 lt/Vs |
| Tank1 operating point level *h1o* | 8.0 cm |
| Tank2 operating point level *h2o* | 5.0 cm |
| Tank3 operating point level *h3o* | 1.5 cm |

**Table 1.2.** System operating point

|  |  |  |
| --- | --- | --- |
| Control Method | Output1 ISE | Output2 ISE (×103) |
| Design I | 391.59 | 1.0151 |
| Design II | 389.58 | 0.6418 |
| Design III | 379.61 | 0.0001 |
|  |  |  |

#

#

#

#

# REFERENCES

APA 7th edition and IEEE formats are accepted.

**Examples for APA 7th edition format:**

**References in Text**

References must be cited in the text. They consist of the author’s last name and publication year. for example (Parker, 2020)

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* ***Parenthetical citation***: (Grady et al., 2019)
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**Books**

Jackson, L. M. (2019). *The psychology of prejudice: From attitudes to social action* (2nd ed.). American Psychological Association. <https://doi.org/10.1037/0000168-000>

Sapolsky, R. M. (2017). *Behave: The biology of humans at our best and worst*. Penguin Books.

Svendsen, S., & Løber, L. (2020). *The big picture/Academic writing: The one-hour guide* (3rd digital ed.). Hans Reitzel Forlag. <https://thebigpicture-academicwriting.digi.hansreitzel.dk/>

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**Website**

Mayo Clinic Staff. (n.d.). Chronic fatigue syndrome. Mayo Clinic. <https://www.mayoclinic.org/diseases-conditions/chronic-fatigue-syndrome/symptoms-causes/syc-20360490>

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**Reference list**

American Psychological Association. (2020). Publication manual of the American Psychological Association (7th ed.). <https://doi.org/10.1037/0000165-000>

Author’s last name, First name initial. Middle initial. (Year of publication). *Title of the book in italics*. Publishing company. DOI or URL if available

Author’s last name, First name initial. Middle initial. (Year of publication). Title of the article. *Title of the Journal in Italics, volume number* (Issue number),pages used. DOI number

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Avery, R. J., Bryant, W. K., Mathios, A., Kang, H., & Bell, D. (2006). Electronic course evaluations: Does an online delivery system influence student evaluations? *The Journal of Economic Education*, *37*(1), 21–37. <https://doi.org/10.3200/JECE.37.1.21-37>

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References must be cited in the text. They must be on the line, in square brackets. Grammatically, they may be treated as if they were footnote numbers, e.g.:

as shown by Brown [4], [5]; as mentioned earlier [2], [4-7], [9]; Smith [4] and Brown and Jones [5]; Wood *et al*. [7]

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or as nouns: as demonstrated in [3]; according to [4] and [6-9].

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**Websites**

First Name Initial(s) Last Name. “Page Title.” Website Title. Web Address (retrieved Date Accessed).

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Further information about IEEE format: <https://ieeeauthorcenter.ieee.org/wp-content/uploads/IEEE-Reference-Guide.pdf>

# APPENDIX

# CURRICULUM VITAE