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**Tugas Akhir**

**Oleh:**

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**Program Studi Teknik Robotika**

**Jurusan Teknik Elektro**

**Politeknik Negeri Batam**

**2023**

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**Tugas Akhir disusun untuk memenuhi salah satu syarat memperoleh gelar**

**Sarjana Terapan Teknik (S.Tr.T)**

**di**

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**Tugas Akhir disusun untuk memenuhi salah satu syarat memperoleh gelar**

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**Tugas Akhir disusun untuk memenuhi salah satu syarat memperoleh gelar**

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2Department of Data Science, Universiti Malaysia Kelantan, Bharu, Malaysia  
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1. **INTRODUCTION (10 PT)**

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4. Results and Discussion, and 5. Conclusion.** The structure is well-known as **IMRaD** style.

Literature review that has been done author used in the section "INTRODUCTION" to explain   
the difference of the manuscript with other papers, that it is innovative, it are used in the section "METHOD" to describe the step of research and used in the section "RESULTS AND DISCUSSION" to support the analysis of the results [2]. If the manuscript was written really have high originality, which proposed a new method or algorithm, the additional section after the "INTRODUCTION" section and before the "METHOD" section can be added to explain briefly the theory and/or the proposed method/algorithm [4].

1. **METHOD (10 PT)**

Explaining research chronological, including research design, research procedure (in the form of algorithms, Pseudocode or other), how to test and data acquisition [5]–[7]. The description of the course of research should be supported references, so the explanation can be accepted scientifically [2], [4]. Figures 1-2 and Table 1 are presented center, as shown below and cited in the manuscript [5], [8]–[13]. The effects of electrical discharges to acidity of HVNE and NELV has been illustrated in Figure 2(a) and the effects of breakdown voltage of NE and NELV has beem illustrated in Figure 2(b).

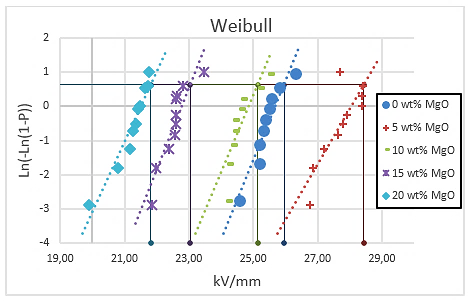


Figure 1. Weibull distribution of all filler concentrations

|  |  |
| --- | --- |
|  |  |
| (a) | (b) |

Figure 2. Effects of electrical discharges to (a) acidity of HVNE and NELV and (b) breakdown voltage of NE and NELV samples

Table 1. The performance of ...

|  |  |  |
| --- | --- | --- |
| Variable | Speed (rpm) | Power (kW) |
| x | 10 | 8.6 |
| y | 15 | 12.4 |
| z | 20 | 15.3 |

1. **RESULTS AND DISCUSSION (10 PT)**

In this section, it is explained the results of research and at the same time is given   
the comprehensive discussion. Results can be presented in figures, graphs, tables and others that make   
the reader understand easily [14], [15]. The discussion can be made in several sub-sections.

**3.1. Sub section 1**

Equations should be placed at the center of the line and provided consecutively with equation numbers in parentheses flushed to the right margin, as in (1). The use of Microsoft Equation Editor or MathType is preferred.

) (1)

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**3.2. Sub section 2**

Proper citation of other works should be made to avoid plagiarism. When referring to a reference item, please use the reference number as in [16] or [17] for multiple references. The use of ”Ref [18]...” should be employed for any reference citation at the beginning of sentence. For any reference with more than 3 or more authors, only the first author is to be written followed by *et al*. (e.g. in [19]). Examples of reference items of different categories shown in the References section. Each item in the references section should be typed using 8 pt font size [20]–[25].

**3.2.1. Subsub section 1**

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1. **CONCLUSION (10 PT)**

Provide a statement that what is expected, as stated in the "INTRODUCTION" section can ultimately result in "RESULTS AND DISCUSSION" section, so there is compatibility. Moreover, it can also be added the prospect of the development of research results and application prospects of further studies into the next (based on result and discussion).

**ACKNOWLEDGEMENTS (10 PT)**

Author thanks ... . In most cases, sponsor and financial support acknowledgments.

**REFERENCES (10 PT)**

The main references are international journals and proceedings. All references should be to the most pertinent, up-to-date sources **and the minimum of references** are **25 entries** (for original research paper)and **50 entries** (for review/survey paper). References are written in **IEEE style**. For more complete guide can be accessed at (http://ipmuonline.com/guide/refstyle.pdf). Use of a tool such as **EndNote**, **Mendeley**, or **Zotero** for reference management and formatting, and choose **IEEE style**. Please use a consistent format for references-see examples (8 pt):

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* M. M. Chiampi and L. L. Zilberti, “Induction of electric field in human bodies moving near MRI: An efficient BEM computational procedure,” *IEEE Trans. Biomed. Eng.*, vol. 58, pp. 2787–2793, Oct. 2011, doi: 10.1109/TBME.2011.2158315.
* R. Fardel, M. Nagel, F. Nuesch, T. Lippert, and A. Wokaun, “Fabrication of organic light emitting diode pixels by laser-assisted forward transfer,” *Appl. Phys. Lett.*, vol. 91, no. 6, Aug. 2007, Art. no. 061103, doi: 10.1063/1.2759475.

1. **Conference Proceedings**

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J. K. Author, “Title of paper,” in *Abbreviated Name of Conf.*, (location of conference is optional), year, pp. *xxx–xxx*, doi: *xxx.*

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* G. Veruggio, “The EURON roboethics roadmap,” in *Proc. Humanoids ’06: 6th IEEE-RAS Int. Conf. Humanoid Robots*, 2006, pp. 612–617, doi: 10.1109/ICHR.2006.321337.
* J. Zhao, G. Sun, G. H. Loh, and Y. Xie, “Energy-efficient GPU design with reconfigurable in-package graphics memory,” in *Proc. ACM/IEEE Int. Symp. Low Power Electron. Design (ISLPED)*, Jul. 2012, pp. 403–408, doi: 10.1145/2333660.2333752.

1. **Book**

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J. K. Author, “Title of chapter in the book,” in *Title of His Published Book*, X. Editor, Ed., *x*th ed. City of Publisher, State (only U.S.), Country: Abbrev. of Publisher, year, ch. *x*, sec. *x*, pp. *xxx–xxx.*

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* A. Taflove, *Computational Electrodynamics: The Finite-Difference Time-Domain Method* in Computational Electrodynamics II, vol. 3, 2nd ed. Norwood, MA, USA: Artech House, 1996.
* R. L. Myer, “Parametric oscillators and nonlinear materials,” in *Nonlinear Optics*, vol. 4, P. G. Harper and B. S. Wherret, Eds., San Francisco, CA, USA: Academic, 1977, pp. 47–160.

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*See the examples:*

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**BIOGRAPHIES OF AUTHORS (10 PT)**

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|  |  |
| https://engineering.utm.my/computing/se/wp-content/uploads/sites/108/2013/01/ctz2.jpg | **Siti Zaiton Mohd Hashim**     received the B.Sc. degree in computer science from the University of Hartford, USA, the M.Sc. degree in computing from the University of Bradford, U.K., and the Ph.D. degree in soft computing from The University of Sheffield, U.K. She used to hold several administrative posts with the School of Computing, Universiti Teknologi Malaysia (UTM), Johor, from 2007 to 2018, including the Head of Department, the Deputy Dean of Postgraduate Studies, and the Deputy Dean of Academic. She was also the Director of the Big Data Centre (Centre of Excellence), UTM, from 2019 to February 2020. She is currently a Professor with the Department of Data Science and the Dean of Undergraduates, Universiti Malaysia Kelantan (UMK). She has supervised and co-supervised more than 20 masters and 20 Ph.D. students. She has authored or coauthored more than 150 publications: 80 proceedings and 57 journals, with 19 H-index and more than 1000 citations. Her research interests include soft computing, machine learning, and intelligent systems. She can be contacted at email: sitizaiton@umk.edu.my. (9 pt) |
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| https://www.upm.edu.my/imej/news/1543_bi.jpg | **Prof. Dr. Mohd Ali Hassan**     his higher studies in MS Food Engineering by coursework at the at the department of Food Science, University of Leeds from 1981-1982. He is attached to the Faculty of Biotechnology and Biomolecular Sciences. His research area then was on spray drying of food. With a small research grant provided by UPM, he developed the process for producing spry-dried coconut milk which made the national headlines. His vast experience and expertise in the field of biotechnology and biomolecular sciences have enabled him to become a national point of reference in the area of biomass, renewable energy and waste utilization. He has also served as a consultant to The Science Advisor Office, Prime Minister’s Department, on the national project on biomass utilisation and is the national representative for the Asia Biomass Association headquartered in Tokyo, Japan. He can be contacted at email: alihas@upm.edu.my. (9 pt) |

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***Keywords****: maximum 6 keywords from paper.*

**1. Pendahuluan**

Pendahuluan memuat latar belakang masalah, kajian literatur sebagai dasar pernyataan kebaruan ilmiah dari naskah, pernyataan kebaruan ilmiah, perumusan masalah, hipotesis (jika ada); dan tujuan penelitian [1], [2]. Pendahuluan ditulis dalam satu bab tanpa sub judul. Seluruh paparan di dalam bab ini ditulis dalam bentuk esai, sehingga tidak ada format numerik atau abjad yang memisahkan antara bab/bagian, atau untuk menandai bab/bagian baru. Untuk itu, jika ada bagian dari isi artikel yang memerlukan *numbering* maupun *bullet list*, buat menjadi paragraf mengalir seperti berikut: 1) satu; 2) dua; dan 3) tiga. Artikel merupakan hasil karya asli penulis dan tidak pernah terpublikasikan di media lain.

**2. Metode Penelitian**

Menjelaskan kronologis penelitian, termasuk desain penelitian, prosedur penelitian (dalam bentuk algoritma, Pseudocode atau lainnya), cara menguji dan akuisisi data [1], [3]. Deskripsi jalannya penelitian harus didukung referensi, sehingga penjelasannya dapat diterima secara ilmiah [2], [4]. Jika diperlukan, Bab ini bisa di-*breakdown* menjadi beberapa sub bab.

1. **Aturan Penulisan**

Naskah diketik dengan menggunakan komputer dalam format MS Word, dengan kertas berukuran A4, berjarak 1 spasi dengan batas kertas 3-3-3-3, serta ditulis rapat kiri-kanan (*justify*). Font yang digunakan adalah Times New Roman (TNR) untuk semua style dengan ukuran 11, kecuali caption gambar dan tabel berukuran 10. Jumlah halaman penulisan adalah antara 7 - 15 halaman. Naskah tulisan dapat ditulis dalam Bahasa Indonesia atau Bahasa Inggris [3]. Jika naskah berbahasa Indonesia, maka harus menyertakan judul dan abstrak Bahasa Inggris selain judul dan abstrak Bahasa Indonesia. Penulisan mengacu pada struktur penulisan ilmiah, dengan kalimat yang jelas dan tidak terlalu panjang. Bila menggunakan Bahasa Indonesia diharapkan memperhatikan pedoman dan istilah yang telah dibakukan. Bila terpaksa menggunakan bahasa asing, hendaknya digunakan huruf miring pada kata tersebut [4-7]. Setiap awal paragraf ditulis menjorok sejauh 0,75 cm. Jika ada yang harus di-list, maka list dibuat dengan huruf kecil. Jika diperlukan list lagi, maka tidak ditulis dalam format daftar list, melainkan dibuat menjadi paragraf mengalir seperti berikut: 1) satu; 2) dua; dan 3) tiga. Jarak antar sub bab 1 spasi (satu kali ENTER)

1. **Kandungan Naskah**

Naskah ditulis tidak bertele-tele. Pembahasan teori yang sudah umum (*well known*) sebaiknya dihindari. Naskah terdiri dari 3 bagian:

1. Bagian awal terdiri dari Judul, nama penulis (tanpa gelar), instansi tempat bekerja, alamat email, abstrak, dan kata kunci. Jika penulis lebih dari satu orang, nama penulis dicantumkan berurutan ke samping, dengan nama penulis utama dicantumkan paling awal. Penulis korespondensi diberi tanda bintang diakhir namanya.
2. Bagian utama **HARUS** terdiri dari 4 bab yaitu, pendahuluan, metode penelitian, hasil dan pembahasan, serta kesimpulan. Jika diperlukan, bab Metode Penelitian dan Bab Hasil dan Pembahasan dapat di-*breakdown* ke dalam beberapa sub bab.
3. Bagian penutup berisi Ucapan Terimakasih (jika ada) dan Referensi.

Penulisan sub bab hanya sampai heading 3. Jika diperlukan penjelasan tambahan lagi, dapat ditulis dalam heading 4 tetapi tidak dengan angka, melainkan dengan huruf Kapital

1. **Sub Bab Level ke-4**

Penulisan Bab dan Sub bab semuanya rapat kiri. Penulisan Bab dan Sub Bab menggunakan huruf kapital di setiap awal kata, kecuali kata sambung dan kata depan.

1. **Sub Bab Level ke-4**

Dan seterusnya ....

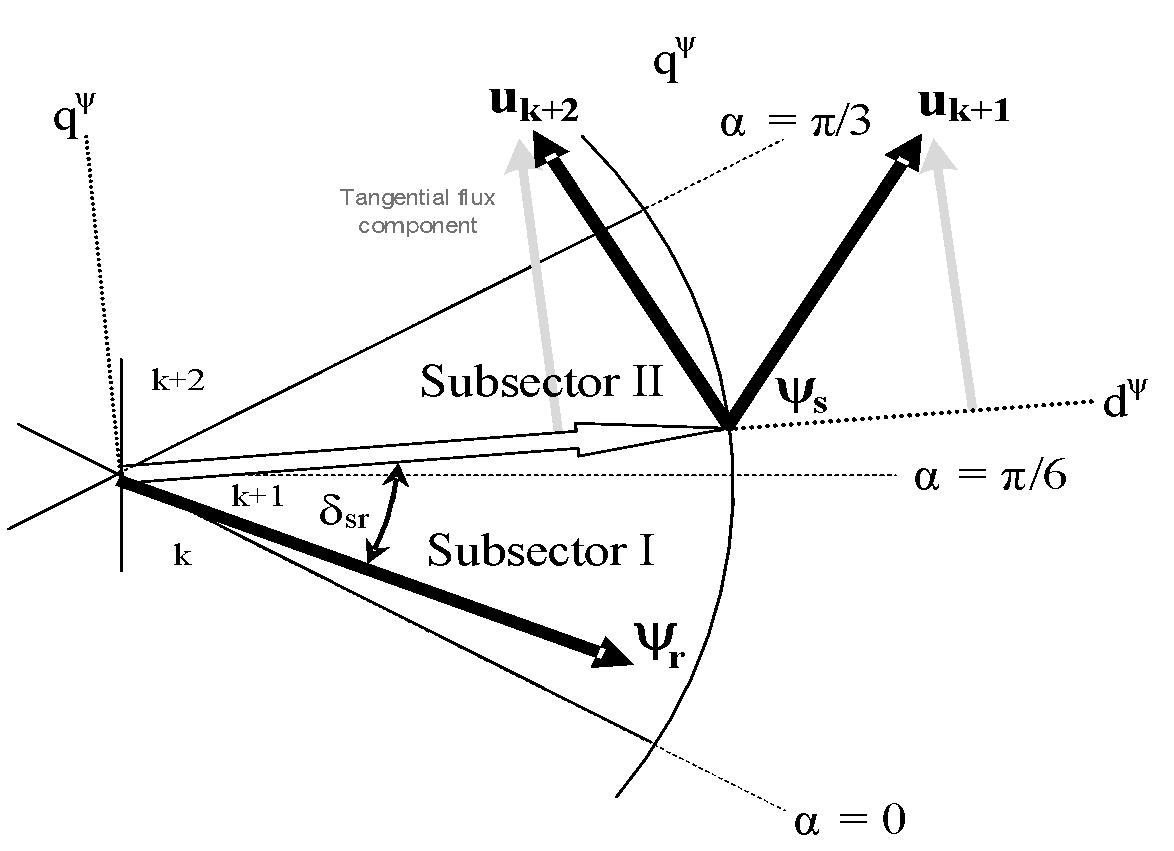
**3. Hasil dan Pembahasan**

Pada bagian ini, dijelaskan hasil penelitian dan pada saat yang sama diberikan diskusi yang komprehensif. Hasil dapat disajikan dalam gambar, grafik, tabel, dan lainnya yang membuat pembaca mudah memahami [2], [5]. Jika penulis melakukan desain prototipe atau alat, Bab ini bisa dimulai dari tahapan desain. Diskusi dapat dilakukan dalam beberapa sub-bab.

1. **Gambar dan Tabel**

Naskah dapat dilengkapi dengan tabel, grafik, gambar, dan foto. Tabel, grafik, gambar, dan foto harus diberi judul yang singkat dan jelas, dan masing-masing diberi nomor urut yang sesuai pada isi naskah. Penomoran gambar dan tabel berurut dimulai dari nomor 1. Penomoran tidak menggunakan penomoran bab. Tulisan dalam tabel berukuran 9 atau 10, tergantung ukuran tabel. Setiap *caption* gambar dan tabel harus diakhiri dengan titik. Hurup besar hanya huruf pertama *caption*, kecuali nama atau huruf awal singkatan. Tulisan yang ada pada gambar harus jelas dan dapat dibaca. Tabel cukup dengan garis horisontal di bagian header dan penutup. Jika tabel bersambung ke halaman berikutnya, header tabel tetap harus muncul. Tabel tidak boleh hasil *crop*  dari naskah lain, harus ditulis ulang. Gambar dan Tabel harus dipanggil/disebut dalam naskah. Jika Gambar dan Tabel bukan karya sendiri, maka, sumbernya harus dicantumkan. Untuk gambar, pencantuman sumber dengan cara disitasi di akhir *caption,* atau dituliskan sumbernya di bawah *caption*. Untuk Tabel, sitasi diletakkan di akhir caption tabel atau ditulis sumbernya di bawah Tabel. Setap akhir caption Gambar dan tabel, harus diakhiri dengan tanda titik. Tulisan *caption* gambar ataupun tabel diawali huruf kapital pada awal kalimat saja, selanjutnya menggunakan huruf kecil, kecuali nama dan singkatan.

Gambar dan Tabel diletakkan di tengah. Berikut ini adalah contoh Gambar dan Tabel.



Gambar 1. Pengaruh pemilihan metode *switching* yang berbeda dalam kondisi dinamis.

Tabel 1. Kinerja sistem.

|  |  |  |
| --- | --- | --- |
| Variable | Speed (rpm) | Power (kW) |
| X | 10 | 8.6 |
| Y | 15 | 12.4 |
| Z | 20 | 15.3 |

Gambar dengan Gambar atau Gambar dengan dan Tabel dapat diletakkan berdampingan.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Tabel 1. Kinerja sistem.   |  |  |  | | --- | --- | --- | | Variable | Speed (rpm) | Power (kW) | | X | 10 | 8.6 | | Y | 15 | 12.4 | | Z | 20 | 15.3 | | Gambar 1. Pengaruh pemilihan metode *switching* yang berbeda dalam kondisi dinamis |

1. **Persamaan**

Persamaan secara berurutan diikuti dengan penomoran angka dalam tanda kurung dengan margin rata kanan, seperti dalam (1). Gunakan equation editor untuk membuat persamaan. Beri spasi tab dan tulis nomor persamaan dalam tanda kurung. Untuk membuat persamaan Anda lebih rapat, gunakan tanda garis miring ( / ), fungsi pangkat, atau pangkat yang tepat. Gunakan tanda kurung untuk menghindari kerancuan dalam pemberian angka pecahan. Jelaskan persamaan saat berada dalam bagian dari kalimat, seperti berikut

 (1)

Pastikan bahwa simbol-simbol di dalam persamaan telah didefinisikan sebelum persamaan atau langsung mengikuti setelah persamaan muncul. Semua variabel/simbol ditulis dengan huruf miring (*T* mengacu pada suhu, tetapi T merupakan satuan Tesla). Mengacu pada “(1)”, bukan “Pers. (1)” atau “persamaan (1) “, kecuali pada awal kalimat: “Persamaan (1) merupakan …”. Persamaan harus bagian dari kalimat, tidak berdiri sendiri. Jika kalimat berakhir di persamaan, maka akhir persamaan diakhiri tanda titik. Jika persamaan bukan akhir dari kalimat, maka persamaan diakhiri tanda koma, dan kalimat dilanjutkan lagi dengan awal huruf kecul. Jika persamaan lebih dari satu, maka dibubuhi titik dua sebelumnya [12]:

(2)

. (3)

**4. Kesimpulan**

Buat kesimpulan mengenai ketercapaian tujuan yang disampaikan di Bab Pendahuluan. Kesimpulan dibuat dalam narasi, tidak dalam bentuk *list* yang isinya hanya angka-angka. Sampaikan juga prospek pengembangan dari penelitian yang sudah dilakukan.

**Ucapan Terima Kasih**

Judul untuk ucapan terima kasih dan referensi tidak diberi nomor. Terima kasih disampaikan kepada Tim TELKA yang telah meluangkan waktu untuk membuat template ini.

**Referensi**

Judul pada bagian Referensi tidak boleh bernomor. Semua item referensi berukuran font 11 pt. Gunakan penulisan referensi dengan Style IEEE. Langkah pertama dari proses kutipan referensi ada di dalam naskah itu sendiri. Setiap kutipan harus dicatat dalam teks melalui penggunaan nomor urut sederhana. Penomoran item referensi diketik berurutan dalam tanda kurung siku (misalnya [1]). Angka yang dilampirkan dalam tanda kurung siku, ditempatkan dalam teks laporan, menunjukkan referensi spesifik. Kutipan diberi nomor sesuai urutan kemunculannya. Setelah sumber dikutip, nomor yang sama bisa digunakan dalam semua referensi selanjutnya dalam naskah.. Penulisan sitasi dan rererensi harus menggunakan *reference manager,* seperti *Mendeley, Zotero,* atau minimal menggunakan *Ms. Word reference manager.*

Ketika Anda mengacu pada item referensi, silakan menggunakan nomor referensi saja, misalnya [2]. Jangan menggunakan "Ref. [3]" atau "Referensi [3]", kecuali pada awal kalimat, misalnya "Referensi [3] menunjukkan bahwa ...". Dalam penggunaan beberapa referensi masing-masing nomor diketik dengan kurung terpisah (misalnya [2], [3], [4 - 6]).

Beberapa contoh lain cara mensitasi dalam naskah:

“. . .akhir dari baris untuk penelitian saya [13]."

"Teori ini pertama kali dikemukakan pada tahun 1987 [1]."

“Scholtz [2] berpendapat. . . "

"Sebagai contoh, lihat [7]."

“Beberapa penelitian terbaru [3, 4, 15, 22] telah menyarankan itu. . . "

**Catatan:** Penulis dan tanggal tidak harus ditulis setelah referensi pertama; menggunakan

nomor kurung. Juga, tidak perlu untuk menulis "dalam referensi [2]." Cukup tulis "dalam

[2]. "

Metode yang lebih disukai untuk mengutip lebih dari satu sumber pada suatu waktu adalah dengan menuliskan setiap referensi di dalam tanda kurung, lalu pisahkan dengan koma atau tanda hubung:

[1], [3], [5]

[1 - 5]

Aturan penulisan referensi adalah sebagai berikut:

**ELECTRONIC DOCUMENTS**

***E-books***

1. L. Bass, P. Clements, and R. Kazman, *Software Architecture in Practice*, 2nd ed. Reading, MA: Addison Wesley, 2003. [E-book] Available: Safari e-book.

***Article in Online Encyclopedia***

1. D. Ince, “Acoustic coupler,” in *A Dictionary of the Internet*. Oxford University Press, [online document ], 2001. Available: Oxford Reference Online, [http://www.oxfordreference.com](http://www.oxfordreference.com/) [Accessed: May 24, 2007].

***Journal Article Abstract (accessed from online database)***

1. M. T. Kimour and D. Meslati, “Deriving objects from use cases in real-time embedded systems,” *Information and Software Technology*, vol. 47, no. 8, p. 533, June 2005. [Abstract]. Ava ilable: ProQuest, [http://www.umi.com/proquest/.](http://www.umi.com/proquest/) [Accessed November 12, 2007].

***Journal Article in Scholarly Journal (published free of charge on the Internet)***

1. A. Altun, “Understanding hypertext in the context of reading on the web: Language learners’ experience,” *Current Issues in Education*, vol. 6, no. 12, July, 2005. [Online serial]. Available: [http://cie.ed.asu.edu/volume6/number12/.](http://cie.ed.asu.edu/volume6/number12/) [Accessed Dec. 2, 2007].

***Newspaper Article from the Internet***

1. C. Wilson-Clark, “Computers ranked as key literacy,” The Atlanta Journal Constitution, para. 3, March 29, 2007. [Online], Available: [http://www.thewest.com.au.](http://www.thewest.com.au/) [Accessed Sept. 18, 2007]

**INTERNET DOCUMENTS**

***Professional Internet Site***

1. European Telecommunications Standards Institute, “Digital Video Broadcasting (DVB): Implementation guide for DVB terrestrial services; transmission aspects,” *European Telecommunications Standards Institute*, ETSI-TR-101, 2007. [Online]. Available: [http://www.etsi.org.](http://www.etsi.org/) [Accessed: Nov. 12, 2007].

***General Internet Site***

1. J. Geralds, “Sega Ends Production of Dreamcast,” *vnunet.com*, para. 2, Jan. 31, 2007. [Online]. Available: [http://nli.vnunet.com/news/1116995.](http://nli.vnunet.com/news/1116995) [Accessed Sept. 12, 2007].

***Personal Internet Site***

1. G. Sussman, “Home Page-Dr. Gerald Sussman,” July, 2002. [Online]. Available : [http://www.comm.edu.faculty/sussman/sussmanpage.htm.](http://www.comm.edu.faculty/sussman/sussmanpage.htm) [Accessed Nov. 14, 2007].

***Email***

1. J. Aston. “RE: new location, okay?” Personal email (July 3, 2007).

***Internet Newsgroup***

1. G. G. Gavin, “Climbing and limb torsion #3387,” USENET: sci.climb.torsion, August 19, 2007. [Accessed December 4, 2007].

***Microform***

1. W. D. Scott, *Information Technology in the US*. [Microform]. W. D. Scott & Co., Canberra: Department of Science and Technology, 2004.

***Computer Game***

1. The Hobbit: *The prelude to the Lord of the Rings*. [CD-ROM]. United Kingdom: Vivendi Universal Games, 2003.

***Software***

1. Thomson ISI, *Endnote 7*. [CD-ROM]. Berkeley, CA: ISI ResearchSoft, 2006.

***Lecture***

[1] S. Bhanndahar. ECE 4321. Class Lecture, Topic: “Bluetooth can’t help you.” School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, Jan. 9, 2008

**PRINT DOCUMENTS**

***Books***

**Single Author**

1. W. K. Chen, *Linear Networks and Systems*. Belmont, CA: Wadsworth Press, 2003.

***Edited Book***

1. J. L. Spudich and B. H. Satir, Eds., *Sensory Receptors and Signal Transduction*. New York: Wiley-Liss, 2001.

***Selection in an Edited Book***

1. E. D. Lipson and B. D. Horwitz, “Photosensory reception and transduction,” in *Sensory Receptors and Signal Transduction*, J. L. Spudich and B. H. Satir, Eds. New York: Wiley-Liss, 2001, pp-1-64.

***Three or More Authors***

1. R. Hayes, G. Pisano, and S. Wheelwright, *Operations, Strategy, and Technical Knowledge*. Hoboken, NJ: Wiley, 2007.

***Book by an Institutional or Organizational Author***

1. Council of Biology Editors, *Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers*, 6th ed., Chicago: Cambridge University Press, 2006.

***Manual***

1. Bell Telephone Laboratories Technical Staff, *Transmission System for Communication*, Bell Telephone Lab, 2005.

***Application Note***

1. Hewlett-Packard, Appl. Note 935, pp.25-29.

***Note: Titles of unpublished works are not italicized or capitalized. Capitalize only the first word.***

**Technical Report**

1. K. E. Elliott and C. M. Greene, “A local adaptive protocol,” Argonne National Laboratory, Argonne, France, Tech. Report. 916-1010-BB, 7 Apr. 2007.

***Patent /Standard***

1. K. Kimura and A. Lipeles, “Fuzzy controller component,” U. S. Patent 14, 860,040, 14 Dec., 2006.

***Data Sheet***

1. Texas Instruments, “High speed CMOS logic analog multiplexers/demultiplexers,” 74HC4051 datasheet, Nov. 1997 [Revised Sept. 2002].

***Government Publication***

1. National Aeronautics and Space Administration, *NASA Pocket Statistics*. Washington, DC: Office of Headquarters Operations, 2007.

***Paper Published in Conference Proceedings***

1. J. Smith, R. Jones, and K. Trello, “Adaptive filtering in data communications with self improved error reference,” In Proc. IEEE International Conference on Wireless Communications ’04, 2004, pp. 65-68.

***Papers Presented at Conferences (unpublished)***

1. H. A. Nimr, “Defuzzification of the outputs of fuzzy controllers,” presented at 5th

International Conference on Fuzzy Systems, Cairo, Egypt, 2006.

***Thesis or Dissertation (unpublished)***

1. H. Zhang, “Delay- insensitive networks,” M. S. thesis, University of Chicago, Chicago, IL, 2007.

***Article in Encyclopedia, Signed***

1. O. Singh, “Computer graphics,” in *McGraw-Hill Encyclopedia of Science and Technology*, New York: McGraw-Hill, 2007, pp. 279-291.

**JOURNAL ARTICLES**

***Article in Journal (paginated by annual volume)***

1. K. A. Nelson, R. J. Davis, D. R. Lutz, and W. Smith, “Optical generation of tunable ultrasonic waves,” *Journal of Applied Physics*, vol. 53, no. 2, Feb., pp. 1144-1149, 2002.

***Article in Professional Journal (paginated by issue)***

1. J. Attapangittya, “Social studies in gibberish,” *Quarterly Review of Doublespeak*, vol. 20, no. 1, pp. 9-10, 2003.

***Article in Monthly or Bimonthly Periodical***

1. J. Fallows, “Networking technology,” *Atlantic Monthly*, Jul., pp. 34-36, 2007.

***Article in Daily, Weekly, or Biweekly Newspaper or Magazine***

1. B. Metcalfe, “The numbers show how slowly the Internet runs today,” Infoworld, 30 Sep., p. 34, 2006

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Introduction (*Heading 1*)

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Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

*Units*

Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive”.

Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.

Do not mix complete spellings and abbreviations of units: “Wb/m2” or “webers per square meter”, not “webers/m2”. Spell out units when they appear in text: “. . . a few henries”, not “. . . a few H”.

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Use a zero before decimal points: “0.25”, not “.25”. Use “cm3”, not “cc”. (*bullet list*)

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Number equations consecutively. Equation numbers, within parentheses, are to position flush right, as in (1), using a right tab stop. To make your equations more compact, you may use the solidus ( / ), the exp function, or appropriate exponents. Italicize Roman symbols for quantities and variables, but not Greek symbols. Use a long dash rather than a hyphen for a minus sign. Punctuate equations with commas or periods when they are part of a sentence, as in:

*a* + *b* = γ (1)

Note that the equation is centered using a center tab stop. Be sure that the symbols in your equation have been defined before or immediately following the equation. Use “(1)”, not “Eq. (1)” or “equation (1)”, except at the beginning of a sentence: “Equation (1) is . . .”

*Some Common Mistakes*

The word “data” is plural, not singular.

The subscript for the permeability of vacuum *μ*0, and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.

In American English, commas, semicolons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)

A graph within a graph is an “inset”, not an “insert”. The word alternatively is preferred to the word “alternately” (unless you really mean something that alternates).

Do not use the word “essentially” to mean “approximately” or “effectively”.

In your paper title, if the words “that uses” can accurately replace the word “using”, capitalize the “u”; if not, keep using lower-cased.

Be aware of the different meanings of the homophones “affect” and “effect”, “complement” and “compliment”, “discreet” and “discrete”, “principal” and “principle”.

Do not confuse “imply” and “infer”.

The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen.

There is no period after the “et” in the Latin abbreviation “et al.”.

The abbreviation “i.e.” means “that is”, and the abbreviation “e.g.” means “for example”.

An excellent style manual for science writers is [7].

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*Identify the Headings*

Headings, or heads, are organizational devices that guide the reader through your paper. There are two types: component heads and text heads.

Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Acknowledgments and References and, for these, the correct style to use is “Heading 5”. Use “figure caption” for your Figure captions, and “table head” for your table title. Run-in heads, such as “Abstract”, will require you to apply a style (in this case, italic) in addition to the style provided by the drop down menu to differentiate the head from the text.

Text heads organize the topics on a relational, hierarchical basis. For example, the paper title is the primary text head because all subsequent material relates and elaborates on this one topic. If there are two or more sub-topics, the next level head (uppercase Roman numerals) should be used and, conversely, if there are not at least two sub-topics, then no subheads should be introduced. Styles named “Heading 1”, “Heading 2”, “Heading 3”, and “Heading 4” are prescribed.

*Figures and Tables*

*Positioning Figures and Tables:* Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

Table Type Styles

| **Table Head** | **Table Column Head** | | |
| --- | --- | --- | --- |
| ***Table column subhead*** | ***Subhead*** | ***Subhead*** |
| copy | More table copya |  |  |

Sample of a Table footnote. (*Table footnote*)

Example of a figure caption. (*figure caption*)

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization”, or “Magnetization, M”, not just “M”. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)” or “Magnetization {A[m(1)]}”, not just “A/m”. Do not label axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature/K”.

Acknowledgment *(Heading 5)*

The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g”. Avoid the stilted expression “one of us (R. B. G.) thanks ...”. Instead, try “R. B. G. thanks...”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

References

The template will number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Refer simply to the reference number, as in [3]—do not use “Ref. [3]” or “reference [3]” except at the beginning of a sentence: “Reference [3] was the first ...”

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the abstract or reference list. Use letters for table footnotes.

Unless there are six authors or more give all authors’ names; do not use “et al.”. Papers that have not been published, even if they have been submitted for publication, should be cited as “unpublished” [4]. Papers that have been accepted for publication should be cited as “in press” [5]. Capitalize only the first word in a paper title, except for proper nouns and element symbols.

For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [6].

G. Eason, B. Noble, and I. N. Sneddon, “On certain integrals of Lipschitz-Hankel type involving products of Bessel functions,” Phil. Trans. Roy. Soc. London, vol. A247, pp. 529–551, April 1955. *(references)*

J. Clerk Maxwell, A Treatise on Electricity and Magnetism, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp.68–73.

I. S. Jacobs and C. P. Bean, “Fine particles, thin films and exchange anisotropy,” in Magnetism, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271–350.

K. Elissa, “Title of paper if known,” unpublished.

R. Nicole, “Title of paper with only first word capitalized,” J. Name Stand. Abbrev., in press.

Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, “Electron spectroscopy studies on magneto-optical media and plastic substrate interface,” IEEE Transl. J. Magn. Japan, vol. 2, pp. 740–741, August 1987 [Digests 9th Annual Conf. Magnetics Japan, p. 301, 1982].

M. Young, The Technical Writer’s Handbook. Mill Valley, CA: University Science, 1989.

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To have non-visible rules on your frame, use the MSWord “Format” pull-down menu, select Text Box > Colors and Lines to choose No Fill and No Line.

***Lampiran 1***

**FORMULIR LOOGBOOK BIMBINGAN DAN PENGAJUAN**

**SEMINAR PROPOSAL/SIDANG TUGAS AKHIR\***

Nama : Muhammad Imron Shodiq

NIM : 4222101009

Pembimbing I :

Pembimbing II\* :

Judul :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Hari/Tgl | Rincian Kegiatan | TTD Pembimbing I & II | |
| 1 | Selasa, 27 Agustus 2024 | Pemahaman mendalam tentang FEA |  |  |
| 2 | Rabu, 4 Agustus  2024 | Menyiapkan Design untuk uji coba FEA |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 |  |  |  |  |

Berdasarkan hasil bimbingan yang telah dilaksanakan selama \_\_\_\_\_\_\_\_ bulan dan telah disetujui oleh dosen pembimbing, maka dengan ini saya mengajukan diri sebagai peserta Seminar Proposal /Sidang Tugas Akhir\*.

Batam, …..

|  |  |  |
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|  |  | Peserta |
|  |  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  | NIM: |