

ARTICLE

Creating an open community to support reusable and reproducible aviation science

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Abstract

Testing abstract Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Keywords: Aviation; reproducibility; transparency; data; software; re-science

Abbreviations: ATM: Air Traffic Management, ADS-B: Automatic Dependent Surveillance–Broadcast

1. Introduction

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language. Some example open open-source research data [2] and tools [1, 3]. The end result is in Figure 1: nice, isn't it?

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2. Method

Callsigns are nice in tt mode AFR88HH and $\rho = 1$ inline

Paragraph title Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

2.1 Method 1

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Figure 1. JOAS Logo

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in

of the original language. There is no need for special content, but the length of words should match the language. ¹

2.2 Method 2

2.2.1 Method 2-1

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Table 1. Engine performance parameters

Parameter	Notation	Remarks
name	-	engine common identifier
manufacture	-	-
bpr	λ	bypass ratio
pr	-	pressure ratio
max_thrust	T_0	maximum static thrust, sea level (unit: N)
fuel_c3	C_{ff3}	fuel flow coefficient, 3rd order term (unit: kg/s)
fuel_c2	C_{ff2}	fuel flow coefficient, 2nd order term (unit: kg/s)
fuel_c1	C_{ff1}	fuel flow coefficient, 1st order term (unit: kg/s)
cruise_thrust	T_{cr}	thrust at the top of climb (unit: N)
cruise_mach	M_{cr}	cruise Mach number for the thrust condition
cruise_alt	h_{cr}	cruise Mach altitude for the thrust condition (unit: ft)

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¹This is how a footnote works.

3. Conclusion

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

And after the second paragraph follows the third paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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Authors contributions

Junzi Sun: Conceptualization, Methodology, Software, Writing- Original draft
Xavier Olive: Data curation, Writing- Original draft
Martin Strohmeier: Visualization, Investigation

Acknowledgement

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References

- [1] Xavier Olive. “Traffic, a toolbox for processing and analysing air traffic data”. In: *Journal of Open Source Software* 4.39 (2019), pp. 1518–1. DOI: [10.21105/joss.01518](https://doi.org/10.21105/joss.01518).
- [2] Matthias Schäfer, Martin Strohmeier, Vincent Lenders, Ivan Martinovic, and Matthias Wilhelm. “Bringing up OpenSky: A large-scale ADS-B sensor network for research”. In: *IPSN-14 Proceedings of the 13th International Symposium on Information Processing in Sensor Networks*. IEEE. 2014, pp. 83–94.
- [3] Junzi Sun, Jacco M Hoekstra, and Joost Ellerbroek. “OpenAP: An open-source aircraft performance model for air transportation studies and simulations”. In: *Aerospace* 7.8 (2020), p. 104.

Appendix 1. Supplementary figures

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Appendix 2. Supplementary data tables

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Open data statement

DOI and short description to supplementary data.

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170

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search, 2) source code for the figures, 3) source code / data for the tables when applicable. 172