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Srikrishna Ayyalasomayajula,[1,2] Neel Kuppa,[2] Sanahbhi Gauraw,[2] Cristian Catillo-Alejo[2]
[1] *CoGuide Labs Inc., 918 Camino Lago, Irving TX, USA*
[2] *Physics, Plano East Senior High School, 3000 Los Rios Blvd, Plano, TX 75074, USA*

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ABSTRACT

This is a simple template for authors to write new MNRAS papers. The abstract should briefly describe the aims, methods, and main results of the paper. It should be a single paragraph not more than 250 words (200 words for Letters). No references should appear in the abstract.

Key words: keyword1 – keyword2 – keyword3

1 INTRODUCTION

This is a simple template for authors to write new MNRAS papers. See `mnras_sample.tex` for a more complex example, and `mnras_guide.tex` for a full user guide.

All papers should start with an Introduction section, which sets the work in context, cites relevant earlier studies in the field by Fournier (1901), and describes the problem the authors aim to solve (e.g. Van Dijk 1902). Multiple citations can be joined in a simple way like De Laguarde (1903); De la Guarde (1904).

2 METHODS, OBSERVATIONS, SIMULATIONS ETC.

Normally the next section describes the techniques the authors used. It is frequently split into subsections, such as Section 2.1 below.

2.1 Maths

Simple mathematics can be inserted into the flow of the text e.g. $2 \times 3 = 6$ or $v = 220\,\mathrm{km\,s^{-1}}$, but more complicated expressions should be entered as a numbered equation:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}. \tag{1}$$

Refer back to them as e.g. equation (1).

2.2 Results and Discussion

3 CONCLUSIONS

The last numbered section should briefly summarise what has been done, and describe the final conclusions which the authors draw from their work.

ACKNOWLEDGEMENTS

The Acknowledgements section is not numbered. Here you can thank helpful colleagues, acknowledge funding agencies, telescopes and facilities used etc. Try to keep it short.

DATA AVAILABILITY

The inclusion of a Data Availability Statement is a requirement for articles published in MNRAS. Data Availability Statements provide a standardised format for readers to understand the availability of data underlying the research results described in the article. The statement may refer to original data generated in the course of the study or to third-party data analysed in the article. The statement should describe and provide means of access, where possible, by linking to the data or providing the required accession numbers for the relevant databases or DOIs.

REFERENCES

van Dijk T., 1902, QJRAS, 2, 202
Fournier P., 1901, ApJ, 1, 101
de la Guarde S., 1904, MNRAS, 4, 404
de Laguarde A., 1903, Nat, 3, 303

APPENDIX A: SOME EXTRA MATERIAL

If you want to present additional material which would interrupt the flow of the main paper, it can be placed in an Appendix which appears after the list of references.

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Table 1. Resistance measurements for different wire cross-sectional areas at varying probe distances. All resistance values measured in Ω.

Area (mm^2)	Probe distance 20 cm (Ω)	40 cm	60 cm	80 cm	100 cm
0.1285 (26 AWG)	2.6	5.6	4.5	9.3	10.0
0.06424 (29 AWG)	4.7	8.9	13.6	18.0	22.6
0.03204 (32 AWG)	9.0	18.1	27.3	36.3	45.4

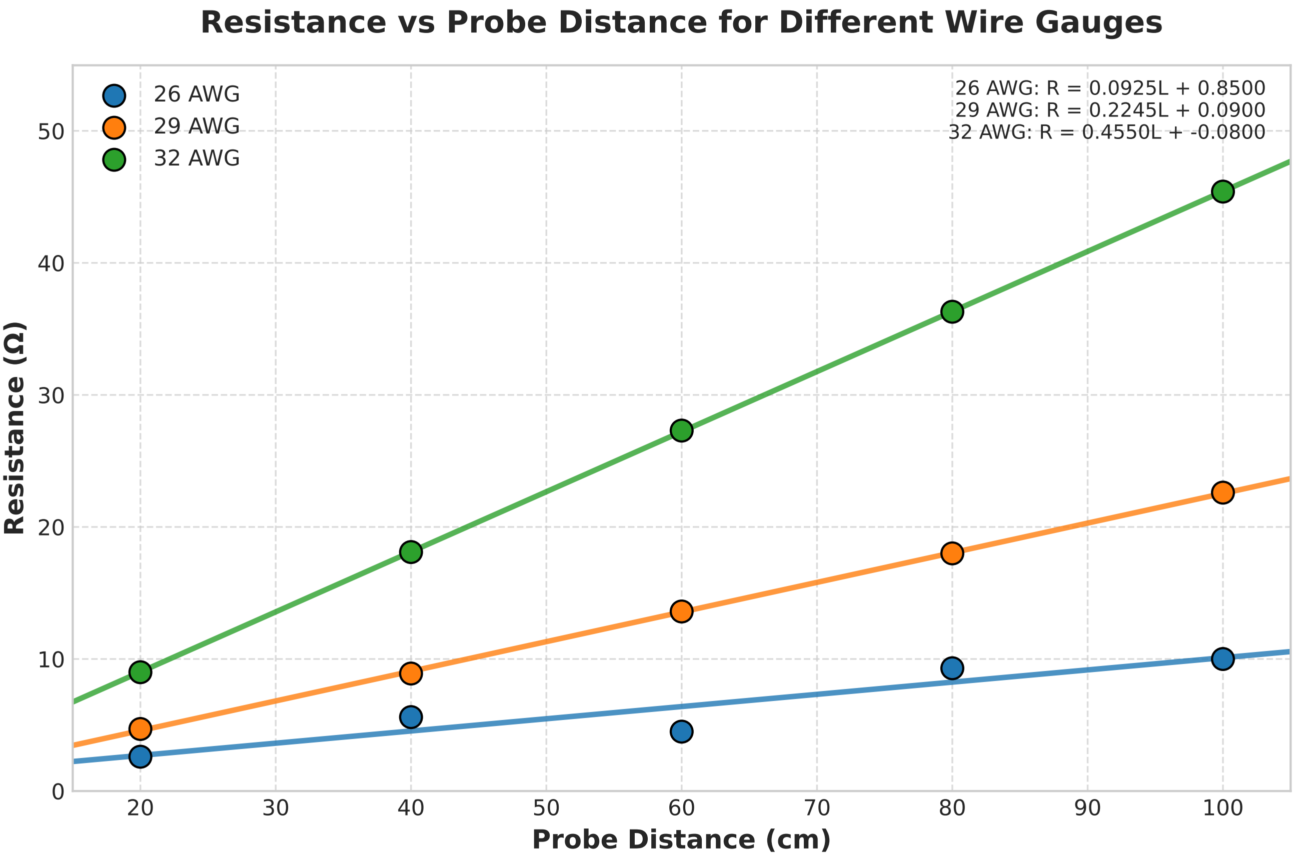

Figure 1. Linear regression analysis of resistance vs probe distance for three wire gauges. Experimental data points (circles) and best-fit regression lines are shown for each AWG gauge. Regression equations: 26 AWG: R = 0.0925L + 0.8500, 29 AWG: R = 0.2245L + 0.0900, 32 AWG: R = 0.4550L - 0.0800 (R, L in Ω, cm). Note: 26 AWG data contains experimental outlier at L=60 cm (4.5 Ω vs expected 6.4 Ω).

Table 2. Linear regression parameters and calculated resistivity for all three wire gauges. Note: 26 AWG data contains experimental outlier at L=60 cm.

AWG	Area (mm^2)	Slope (Ω/cm)	Resistivity (Ω·cm)	R^2
26	0.1285	0.092500	0.000119	0.854343
29	0.06424	0.224500	0.000144	0.999747
32	0.03204	0.455000	0.000146	1.000000