

The PNP Markdown Standard – PNPMD v1.001

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Abstract

We define the PNP Plain Text Standard v1.001 (PNPMD v1.001). It is based on mathematically aware Markdown using \dots and \dots LaTeX equation blocks. The format eases compatibility with naive use of rendering engines that convert `.md` to various targets (`.pdf`, `.html`, etc.).

One-Sentence Summary

PNPMD v1.001 is a minimal, human-readable *first*, mathematically aware, plain-text, Markdown standard for documents.

Keywords

plain-text, research format, markdown, mathjax, html, PNPMD

Introduction

The PNPMD v1.001 format provides a minimal yet complete Markdown structure for mathematically aware documents. The format allows for naive use of tools like `pandoc` that render `.md` directly to PDF or HTML. It keeps the format simple and human-readable *first*: a straight ASCII-text document. It avoids relying on human-unreadable, unnecessary, or noisy LaTeX wrappers and PDF-only workflows. Our goals are reproducibility, portability, and unambiguous interpretation. It is also well-suited to version-controlled repositories.

In summary:

- human-readable *first*
- clear, simple, LaTeX, math-aware text
- ASCII art
- even tikki figures

Structure

In summary,

- Header
- Abstract
- One-Sentence Summary
- Keywords
- Other body sections
- Corresponding Author
- References

In more detail,

- **Header**

First three lines:

```
% Title
% Author(s)
% Date
```

- **Abstract**

3–5 sentences: problem \rightarrow method \rightarrow result \rightarrow significance. Avoid citations or equations here.

- **One-Sentence Summary**

Single self-contained sentence summarizing the paper.

- **Keywords**

3–6 topical keywords.

- **Other Body Sections**

Recommended sections:

- Introduction — motivation, novelty, context.
- Theory / Framework — fundamental definitions and starting equations from first principles.
- Derivation — detailed steps, explicit approximations with justification.
- Results — final closed-form laws, constants, predictions; include numerical evaluations with units.
- Discussion — interpretation, implications, and limits.
- Conclusion — concise recap of contributions, assumptions, and scope.
- Next Work — proposed future directions.
- Appendices — supplementary derivations, datasets, or proofs.

6. Corresponding Author

- Immediately before References:

7. References

- Use DOI links where possible.

- Avoid footnote-style citations; inline references are sufficient.

Formatting Rules

Math:

- Inline math: `$...$` Example: $E = mc^2$
- Display math blocks: `$$...$$`

Example:

$$F_{\mu\nu} = \partial_\mu A_\nu - \partial_\nu A_\mu$$

- **DO NOT USE** `\[...\]` and `\(...\)` either for inline or block math
- Always specify units. SI units preferred

Example: $R = 5.29177210903 \times 10^{-11} \text{ m}$

Characters:

- UTF-8 encoding required.
- Although some Greek, math symbols, and Unicode arrows (\rightarrow , \leftarrow) are allowed **only if** they are supported by the default `utf8` inputenc mapping in pdfLaTeX, ... is preferred.
- Any unmapped Unicode symbols must be replaced either by ... or their ascii counterpart.
- No inline math math format other than ... OR

...

- No math in abstract or metadata.

Text emphasis:

- Avoid bold, italics, and underlines unless essential for meaning.
- Decorative emphasis is not permitted.

Section separation:

- Separate sections with two blank lines (`\n\n`).
- Never use `---` (horizontal rules) to separate sections.

Figures:

- Optional; ASCII diagrams if needed. Example:

```
Core
( o )
 \  /
  \_/
```

Example Section

Theory Let $U : \mathbb{R}^3 \times \mathbb{R} \rightarrow \mathbb{R}$ be the scalar energy field. The field strength is defined:

$$F = d(*dU)$$

Source-free dynamics satisfy:

$$dF = 0, \quad d\star F = 0$$

Energy density and Poynting vector:

$$u = \frac{\varepsilon_0}{2}(E^2 + c^2 B^2), \quad \mathbf{S} = \frac{1}{\mu_0} \mathbf{E} \times \mathbf{B}$$

Results For TE_{11} mode geometry:

$$\alpha = \frac{\kappa}{2\pi^2 R} \cdot \frac{e^2}{\varepsilon_0}$$

Numerical value: $\alpha \approx 6.41 \text{ eV}$.

Conclusion

PNPMD v1.001 is a plain-text specification for mathematically aware documents.

Next Work

A PNPMD v2 could extend this with optional metadata fields for ORCID, funding, and cross-references between related preprints.

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References

1. Palma, A., Rodríguez, A. M., & Freet, M. (2025). Point–Not–Point: Deriving Maxwell Electrodynamics from a Scalar Energy Field and Explaining Particle–Wave Duality. DOI:10.13140/RG.2.2.16877.91368