

# Template for the Preparation of Manuscripts (Full Paper at DIR2025)

Andrew G. PRINCIPAL AUTHOR<sup>1</sup> (,Peter CO-AUTHOR<sup>2</sup>, David CO-AUTHOR<sup>1</sup>)

*(capital letters only for LAST NAME, initials should be used only for middle names,  
do not include degrees or professional titles, e.g. PhD, Prof., etc.*

<sup>1</sup> Department (if applicable), Affiliated university issuing academic degree (address should be written in English)  
City, State (if applicable), Country; Phone: +49 2651 904905, Fax +49 2651 904906 (if applicable); e-mail, ...  
(in order of appearance of author names)

<sup>2</sup> Department, Affiliation, City, State, Country; e-mail

**\*\*\* delete the text in red in the final version \*\*\***

*This template provides instructions for preparing the manuscripts related to contributions selected as full papers at DIR2025 conference. They should be limited to 6 pages and after validation they will be published online on NDT.net (e-Journal of Nondestructive Testing - ISSN 1435-4934) with an individual DOI number. Kindly adhere to the formatting and structure provided in the template. Once the manuscript has been reviewed by your co-authors and thoroughly proofread, please submit the final, publication-ready version (.pdf format, named DIR2025\_FP\_IDxxx\_Y\_ZZZ.pdf (x: ID/number, Y: initial of your firstname, Z: your LASTNAME) through your account on <https://www.conftool.pro/dir2025/>.*

**Abstract** (approx. 100 to 150 words)

These instructions have been prepared to assist authors in the preparation of Manuscripts. The instructions should be followed in all matters of format including section headings, capitalisation, punctuation, table and figure headings and their placement within the text. Given guidelines are to ensure maximum uniformity of style and reproduction without further modifications. [At the Beginning Provide a concise summary of your paper, typically 150-250 words. Emphasize the primary research objectives, methodology, key findings, and their significance in the context of NDT in engineering.]

**Keywords:** Example. Inspection, welding, aerospace, carbon fiber composite, etc.

[List a set of relevant keywords that describe the content of your paper, typically 3-6 keywords.]

## 1. Introduction

In preparing a manuscript, authors are solely responsible for the quality and appearance of the final product. Please follow these guidelines carefully and accurately. If any questions or special problems arise, feel free to contact the publisher at [editor@ndt.net](mailto:editor@ndt.net).

## 2. Specific instructions

### 2.1 Text

Text should be typed at single spacing in Times New Roman or similar typeface, 12 point and fully justified. Plain white A4 paper should be used with margins of 25 mm on all sides. Please do not type any page numbering. It should not be assumed that the reader is familiar with specific national institutions or corporations. Acronyms should be translated in full into English.

### 2.2 Format

An introductory paragraph should be given after a first-level heading, followed by numbered subheadings. First-level headings should be in 14 point bold typeface; second-level headings 12 point bold italic; and third-level in 12 point italic. All headings should be left-justified.

### 2.2.1 Title

The title should emphasise the objective of the paper. Avoid excessive length. The title should be in 14 point bold, centred on the width of the opening page. All words except for short connectives should have a capital initial.

### 2.2.2 Authors

Names of authors should be centred on the second line below the title. The name(s) should be shown as first name, middle initial, and last name or first initial, middle name, and last name, as preferred. Only the first letter of names should be capitalised.

### 2.2.3 Affiliations, Addresses

This section should be typed in 10 point. Authors' organisation and address should be single spaced below the name(s). If there is more than one author, separate the authors by organisation and address.

### 2.2.4 Abstract

The abstract begins on the third line below the authors' names and addresses, as described above. The abstract should be typed in 10 point and its length in the range of 100 to 150 words. It should mention the techniques used without going into methodological detail and summarize the most important results. Please do not include any citations in the abstract. Avoid specialist abbreviations.

### 2.2.4 Keywords

Keywords should be written in the line below the abstract and should be in lower case (apart from abbreviations or proper names). Keywords have to be separated by comma. Keywords shall not include brand names. Keywords to be abbreviated should be given in full, followed by the acronym or abbreviation in parentheses, e.g., time of flight diffraction (TOFD).

### 2.2.4 Body

The body of the paper should open with an introduction, which is a brief assessment of prior work by others, and an explanation of how the paper contributes to the field. The introduction should briefly describe the extent of the study and techniques employed. The introduction part of the body should not contain information on results obtained.

After the introduction, the main body of the paper is presented. It is here that the primary information contained in the paper is located. The author is free to select the format best suited to the paper. Sections may cover such topics as previous work, experimental methods, theory, results, discussion, etc. The author should present material succinctly, eliminating details readily available from other sources.

## 2.3 Acronyms and abbreviations

Terms to be abbreviated should be given in full the first time they appear, followed by the acronym or abbreviation in parentheses. Subsequently, the acronym is used. Acronyms should be used prudently; an excessive number should be avoided.

## 2.4 Mathematics, equations, formulae and symbols

Please type as much of the mathematical material as possible, with particular care in spacing and alignment, vertical as well as horizontal. Displayed equations or displayed chemical formulae (ie, those on their own line) should be in italics and centred with one line of space above and below. Break multi-line equations before a relation or operation sign, and align the sign to the right of the equals sign in the first line. Leave one space on each side of a relation or operation sign. Equation numbers should be typed in parentheses at the right margin using Arabic numbers. Symbols appearing in the text should be in italics.

$$(k) = r_0 \cdot \exp(-2R_q^2 k^2) \quad (1)$$

(Cambria Math as default font in Word formula editor accepted)

Further requirements

- Format and label mathematical equations clearly, using standard notation when possible.
- Use specialized software like LaTeX or MathType for mathematical notation to ensure accuracy and consistency.
- Double-check that all equations are properly aligned and easy to read, even if they need to be scaled down for publication.

## 2.5 Figures and graphs

Figures should be numbered and captioned, and should be included at appropriate positions within the text. Leave one line gap above and below figures and tables and do not put text to the side of them. Captions should be centred on the page. Lettering online drawings should be large enough to be clearly legible, advised size comparable to text letter size (Times-Roman 12 points) or at least the caption letter size (Times-Roman 10 points). If photos are to be included, these should be pasted on the page in the appropriate position. Please avoid photos of too high resolution since these will increase the file size unnecessarily.

Further requirements

- Write informative yet concise figure captions that explain what's in the figure.
- Number your figures sequentially and refer to them in your text where relevant.
- Keep a consistent style, size, and quality for all figures in your manuscript.
- If your figures contain complex mathematical symbols or formulas, use vector-based graphics formats to ensure they remain clear and legible, even when resized.



Figure 1. Geometrical configuration for tangential control (10 points)

## 2.5 Tables

Tables must be cited in the text and should be included as close to the point of reference as possible, but tables should not continue from one page to the next unless a table begins at the beginning of a page (ie, a multi-page table). The table caption, in bold, should always be centred with the table number above the table. Arabic numbers should be used for table numbers.

Further requirements:

- Organize tables clearly, avoiding clutter, and focusing on straightforward data presentation.
- Be consistent in formatting tables, including clear labels for columns and rows.
- Number tables in sequence and reference them in your text to guide readers.
- Ensure tables are of sufficient quality for clear printing and online viewing.
- provide explanations for any special symbols or notations in footnotes.

**Table 1. Table example (12 points)**

Item	Specifications
Table caption defined	The table caption, in bold, should always be centred with the table number above the table. Arabic numbers should be used for table numbers. Do not end the table caption with a full stop.
Table contents	Preferred type font is Times New Roman 11 point. Line spacing should be single space with one additional line of space between paragraphs.

## 3. Chapter suggestions

### 3.1 Introduction

- **Research Objectives:** Clearly articulate the primary goals of your research, which should be focused on advancing the understanding and practice of NDT within the engineering context. Specify the key challenges or issues your research aims to address. Explain how these objectives relate to the broader context of NDT and engineering.
- **Significance:** Discuss the significance of your research for the field of NDT in engineering. Explain how it directly contributes to the advancement of NDT practices, the development of novel techniques within the engineering discipline, and addresses critical problems.

### 3.2 Literature Review

- **Identify Gaps:** Thoroughly analyze the existing literature, identifying gaps, limitations, or areas with room for improvement in NDT techniques within the engineering field. Discuss how these gaps have hindered progress in the engineering applications of NDT. ONLY the paper from 10-15 years ago would be accepted to add a reference to the literature review.
- **Motivation:** Elaborate on the motivation behind your research, emphasizing how it directly contributes to the advancement of NDT in engineering. Provide specific examples of problems or shortcomings in the literature that your work seeks to rectify.

### 3.3 Methodology:

- **Detailed Approach:** Provide a comprehensive overview of the research methods and techniques employed in your study. Explain how these methods are tailored to address the specific engineering challenges in NDT. Provide step-by-step details, including any specialized equipment or software used.
  - Consider using a flowchart in your paper to enhance the reader's understanding.
- **Innovations:** If your methodology includes novel techniques, modifications, or innovations, provide a detailed account of these advancements and their significance for engineering applications in NDT. Explain how these innovations address the limitations of current NDT methods.

### 3.4 Experimental Setup (if applicable):

- **Equipment and Customization:** Describe the equipment used in your experiments, highlighting any modifications or customizations made to adapt them to NDT in the context of engineering. Include technical specifications and how these modifications affect the performance of engineering applications.
- **Conditions and Considerations:** Explain the experimental conditions, including environmental factors, sample characteristics, and other parameters relevant to engineering applications of NDT. Detail how these conditions were selected to replicate real-world scenarios in engineering.

### 3.5 Results:

- **Data Presentation:** Present the results of your experiments clearly and comprehensively. Utilize figures, tables, and diagrams to visually represent your findings, emphasizing the engineering-specific aspects. Include detailed captions that provide engineering context for the presented data.

- **Engineering Implications:** Discuss how the results directly relate to engineering applications, addressing the specific problems or challenges in NDT that your research aims to solve. Describe how these results could be practically applied in the field of engineering.

### 3.6 Discussion

- **Interpretation:** Provide a detailed interpretation of the results and their significance for engineering. Discuss the implications of your findings in the context of improving NDT practices in the field, considering both their theoretical and practical implications.
- **Comparisons:** Compare your results with existing literature, emphasizing the unique contributions your research makes to the engineering aspects of NDT. Discuss how your work advances the state of knowledge in NDT within the engineering domain.

### 3.7. Conclusions

Following the body of the report the author should present, in narrative format, conclusions drawn from the paper. The conclusions should be based on the discussion in the body of the paper. In addition, it may be valuable to demonstrate the value of the work to the profession. The conclusions should be written for the general reader. Specific detailed information is better confined to the body of the paper.

- **Summary of Goals:** Summarize the primary research objectives and restate how your work directly addresses the specific challenges in NDT within the engineering discipline. Highlight the contributions to engineering knowledge. ➤ highlight your contributions
- **Practical Implications:** Highlight the practical applications and implications of your research for engineering practitioners in the field of NDT. Discuss how your findings can be implemented in real-world engineering scenarios and the benefits they offer.

### Acknowledgements (if applicable)

Acknowledgements should be typed as text and placed before the reference listing.

**Funding and Support:** Acknowledge financial support, research grants, or resources that enabled your research, emphasizing their importance in achieving your engineering-focused NDT goals. Specify how these resources were instrumental in the success of your research.

### References

**Citation of Relevant Work:** Ensure that you've cited and referenced all relevant literature, standards, and previous research in NDT and engineering, providing context for your study. Specific software such as Mendeley, EndNote, and Zotero may be used for citation management.

References should be written in the order in which they appear in the text in the following format:

1. L Udpa and S S Udpa, 'Neural Networks for the Classification of Non-Destructive Evaluation Signals', IEE Proceedings-F, Vol 138, No 1, pp 201-205, February 1991.