

# IEEE Research Paper

1<sup>st</sup> Sahil Deshpande  
*Computer Engineering Department)*  
*name of organization (COEP)*  
Pune, India  
email address or ORCID

2<sup>nd</sup> Sameer Deshpande  
*Computer Engineering Department*  
*name of organization (COEP)*  
Pune, India  
email address or ORCID

**Abstract**—This document is a model and instructions for  $\text{\LaTeX}$ . This and the `IEEEtran.cls` file define the components of your paper [title, text, heads, etc.]. **\*CRITICAL: Do Not Use Symbols, Special Characters, Footnotes, or Math in Paper Title or Abstract.**

**Index Terms**—component, formatting, style, styling, insert

## I. INTRODUCTION

This document is a model and instructions for  $\text{\LaTeX}$ . Please observe the conference paper limits.

## II. EASE OF USE

### A. Maintaining the Integrity of the Specifications

The `IEEEtran` class file is used to format your paper and style the text. All margins, column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. For example, the head margin measures proportionately more than is customary. This measurement and others are deliberate, using specifications that anticipate your paper as one part of the entire proceedings, and not as an independent document. Please do not revise any of the current designations.

## III. PREPARE YOUR PAPER BEFORE STYLING

Before you begin to format your paper, first write and save the content as a separate text file. Complete all content and organizational editing before formatting. Please note sections III-A–III-E below for more information on proofreading, spelling and grammar.

Keep your text and graphic files separate until after the text has been formatted and styled. Do not number text heads— $\text{\LaTeX}$  will do that for you.

### A. Abbreviations and Acronyms

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, ac, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

### B. 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/m<sup>2</sup>” or “webers per square meter”, not “webers/m<sup>2</sup>”. Spell out units when they appear in text: “. . . a few henries”, not “. . . a few H”.
- Use a zero before decimal points: “0.25”, not “.25”. Use “cm<sup>3</sup>”, not “cc”).

### C. Gravitation

Newton’s law of universal gravitation is usually stated as that every particle attracts every other particle in the universe with a force that is proportional to the product of their masses and inversely proportional to the square of the distance between their centers.

### D. Concorde

The Aérospatiale/BAC Concorde is a retired Franco-British supersonic airliner jointly developed and manufactured by Sud Aviation and the British Aircraft Corporation (BAC). Studies started in 1954, and France and the UK signed a treaty establishing the development project on 29 November 1962, as the programme cost was estimated at £70 million (£1.39 billion in 2021). Construction of the six prototypes began in February 1965, and the first flight took off from Toulouse on 2 March 1969. The market was predicted for 350 aircraft, and the manufacturers received up to 100 option orders from many major airlines. On 9 October 1975, it received its French Certificate of Airworthiness, and from the UK CAA on 5 December.

### E. Mars Mission

The Mars Orbiter Mission (MOM), also called Mangalyaan, was a space probe orbiting Mars since 24 September 2014. It was launched on 5 November 2013 by the Indian Space

Research Organisation (ISRO). It was India's first interplanetary mission and it made ISRO the fourth space agency to achieve Mars orbit, after Roscosmos, NASA, and the European Space Agency. It made India the first Asian nation to reach the Martian orbit and the first nation in the world to do so on its maiden attempt. An excellent style manual for science writers is [7].

#### F. Authors and Affiliations

**The class file is designed for, but not limited to, six authors.** A minimum of one author is required for all conference articles. Author names should be listed starting from left to right and then moving down to the next line. This is the author sequence that will be used in future citations and by indexing services. Names should not be listed in columns nor group by affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization).

#### G. JEE Mains

The Joint Entrance Examination (JEE) is an engineering entrance assessment conducted for admission to various engineering colleges in India. It is constituted by two different examinations: the JEE-Main and the JEE-Advanced.

The Joint Seat Allocation Authority (JoSAA) conducts the joint admission process for a total of 23 Indian Institutes of Technology, 31 National Institutes of Technology, 25 Indian Institutes of Information Technology campuses and other Government Funded Technical Institutes (GFTIs) based on the rank obtained by a student in JEE-Main or JEE-Advanced, depending on the engineering college.

#### H. Figures and Tables

*a) 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 I  
TABLE TYPE STYLES

| Name      | Coaching  | Percentile | College    |
|-----------|-----------|------------|------------|
| Snehasish | ICAD      | 99.84      | COEP       |
| Sahil     | Cataylser | 99.77      | COEP       |
| John      | FITJEE    | 100        | IIT Bombay |
| James     | Allen     | 99.22      | VNIT       |

Fig. 1. Example of a figure caption.

#### ACKNOWLEDGMENT

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

Please 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].

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