# **Article Title**

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#### **Abstract**

The text of your abstract. The cmc-article format is designed for scholarly articles, especially preprints. Its goal is to be lightweight yet customizable, with thoughtful typography and layout.

Keywords 3 to 6 keywords • can go here

#### 1 Introduction

Body of paper. Citations are easy to use (Metropolis et al., 1953). See Section 2 for a math demonstration.

## 2 Additional section headings here

cmc-article includes helpful math packages: mathtools, amssymb, amsthm, and physics by default. It also includes a default header. tex file with useful macros for math and statistics. Some of these are demonstrated in Eq. 1.

$$\mathbf{X} \sim \mathcal{N}\left(\mu, \mathbf{\Sigma}^{2}\right); \quad p(\mathbf{x}) = \frac{1}{\sqrt{(2\pi)^{k} \det(\mathbf{\Sigma})}} \exp\left(-\frac{1}{2}(\mathbf{x} - \mu)^{\top} \mathbf{\Sigma}^{-1}(\mathbf{x} - \mu)\right)$$

$$\mathbb{E}(Y) = \sum_{y \in \mathcal{Y}} y \, \mathbb{P}(Y = y) = \sum_{y \in \mathcal{Y}} y \, \mathbb{E}(\mathbb{1}\{Y = y\})$$
(1)

The package also includes an assump environment for typesetting assumptions which can be referenced by easy-to-remember abbreviations.

**Assumption IID.** The observations  $X_1, X_2, \dots, X_n$  are independent and identically distributed.

**Assumption FE** (Finite expectation). For each  $1 \le i \le n$ , we have  $E[X_i] = \mu < \infty$ .

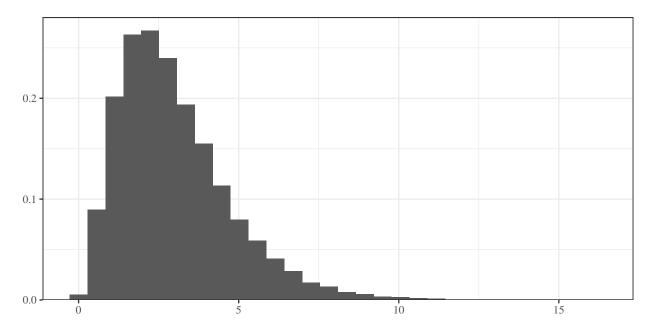
**Theorem 2.1** (Weak Law of Large Numbers). Let  $\bar{X}_n := n^{-1} \sum_{i=1}^n X_i$ . Then under IID and FE, we have  $\bar{X}_n \xrightarrow{p} \mu$  as  $n \to \infty$ .

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### 2.1 An example subsection heading

See Figure 1 for an example figure.



**Figure 1:** Histogram of samples from a gamma distribution.

### 2.1.1 Level 3 heading

Text here.

### 2.1.1.1 Level 4 (numbered paragraph) heading Text here.

Level 5 (paragraph) heading Text here.

## 3 Conclusion

The final section of the main text.

## References

Metropolis, N., Rosenbluth, A. W., Rosenbluth, M. N., Teller, A. H., and Teller, E. (1953). Equation of state calculations by fast computing machines. *The Journal of Chemical Physics*, 21(6):1087–1092.

# A Appendix section

This section will be numbered like an appendix