

PINNs and PINOs

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Abstract

PIN y PON

Keywords: PINN, PINO, Deep Learning, Neural Networks, Scientific Machine Learning

1. How can we solve PDEs using PINNs and PINOs?

1.1. PINNs

1.1.1. Why PINNs?

have been widely used in the recent years to solve different kinds of problems, including , since this kind of neural networks offers several advantages over traditional neural networks, as well as over traditional numerical methods to solve . Some of these advantages are: The incorporation of physical knowledge, which constrains the network by physical laws to ensure the solutions are physically consistent;

2. Section 1

Section text. See Subsection 2.1.

1	2	3
4	5	6
7	8	9

Table 1: Table Caption

2.1. Example Subsection

Subsection text.

2.1.1. Mathematics

This is an example for the symbol α tagged as inline mathematics.

$$f(x) = (x + a)(x + b) \tag{1}$$

$$f(x) = (x + a)(x + b)$$

$$f(x) = (x + a)(x + b) \tag{2}$$

$$= x^2 + (a + b)x + ab \tag{3}$$

$$\begin{aligned} f(x) &= (x + a)(x + b) \\ &= x^2 + (a + b)x + ab \end{aligned} \tag{4}$$

$$\begin{aligned} f(x) &= (x + a)(x + b) \\ &= x^2 + (a + b)x + ab \end{aligned}$$

$$\begin{aligned} f(x) &= (x + a)(x + b) \\ &= x^2 + (a + b)x + ab \end{aligned}$$

Appendix A. Example Appendix Section

Appendix text.

Example citation, See [1].

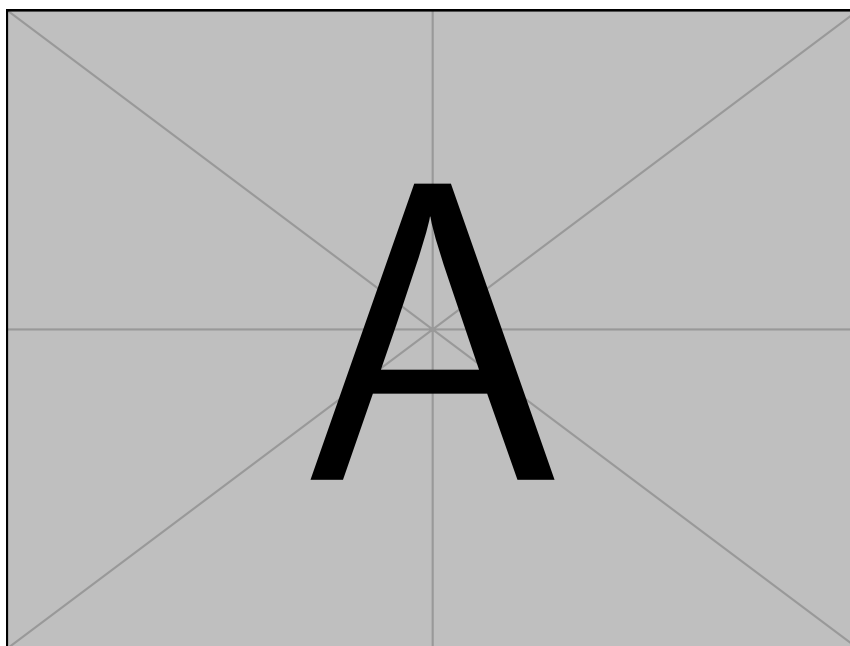


Figure 1: Figure Caption

References

- [1] Leslie Lamport, *LaTeX: a document preparation system*, Addison Wesley, Massachusetts, 2nd edition, 1994.