

INTRODUCTION

Randomness is a fundamental concept in many fields, from physics to economics. It is often used to describe systems that are unpredictable or chaotic. In this paper, we explore the concept of randomness and its applications in various fields. We discuss the different types of randomness, such as white noise and Brownian motion, and how they are used in modeling complex systems. We also discuss the role of randomness in decision-making and optimization. The paper is organized as follows: Section 1 discusses the basic concepts of randomness, Section 2 discusses the applications of randomness in physics, Section 3 discusses the applications of randomness in economics, and Section 4 discusses the role of randomness in decision-making and optimization. The paper concludes with a discussion of the future directions of research in this field.

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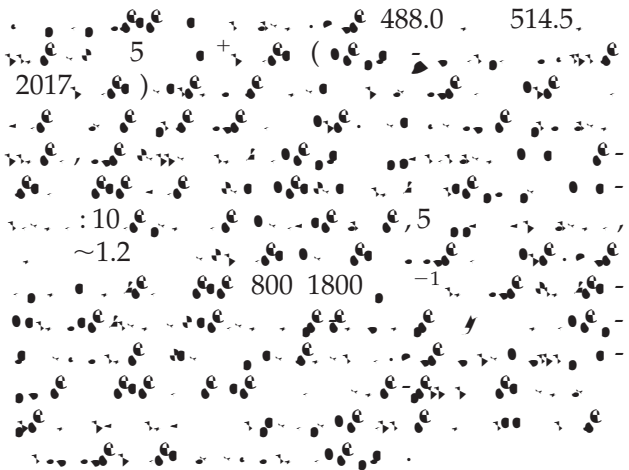
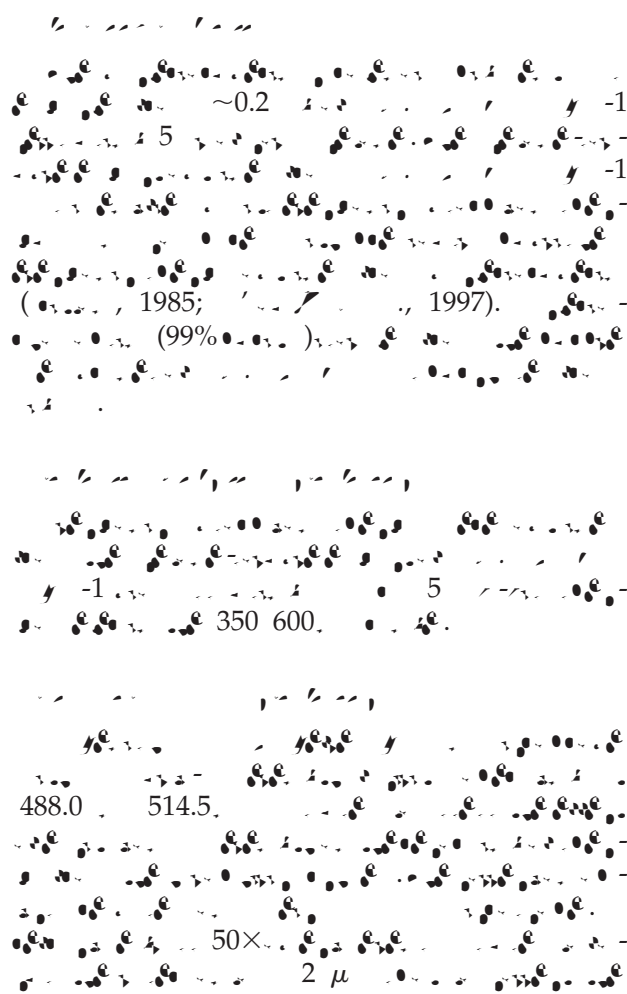
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RESULTS AND DISCUSSION

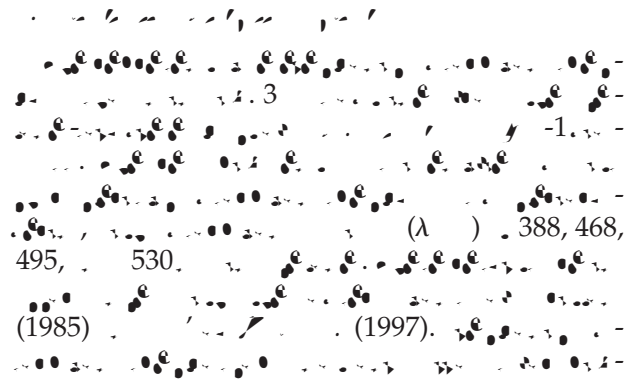


FIG. 3. T a a - λ a *Hb. alinar m NRC-1* 468, 495, 530.

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$\nu_1(=)$ 50
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$\nu_1 = 1505^{-1} = 13 = 168, 68 \text{ 71.}$
 $(2004) = 35, 470 \text{ 474.}$
 $(2005) = 174, 560 \text{ 571.}$
 $(2003) = 3, 565 \text{ 579.}$
 $(1989) = 1, 2, 3, 25, 601 \text{ 604.}$
 $(1999) = 28, 367 \text{ 399.}$
 $(1974) = 20, 241 \text{ 243.}$
 $(2001) = 1, 161 \text{ 164.}$
 $(1979) = 2, 1, 73.$
 $(2006) = 41, 182 \text{ 189.}$
 $(2002) = 39, 1 \text{ 7.}$
 $(1996) = 35, 7802 \text{ 7811.}$
 $(1995) = 53, 50, 23, 23, 627 \text{ 634.}$
 $(2005) = 77, 212 \text{ 221.}$

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ABBREVIATIONS

The following abbreviations are used throughout the text: [Abbreviation], [Abbreviation], and [Abbreviation].

REFERENCES

[Author] (1990) [Journal], 23, 181-193.
 [Author] (1985) [Journal], 111, 113-149.
 [Author] (2004) [Journal], 63, 115.
 [Author] (1982) [Journal], 262.
 [Author] (1999) [Journal], 74, 311-345.
 [Author] (1995) [Journal], A, A.

[Author] (1997) [Journal], 225-230.
 [Author] (20%) [Journal], A, 168, 68-71.
 [Author] (2004) [Journal], 35, 470-474.
 [Author] (2005) [Journal], 174, 560-571.
 [Author] (2003) [Journal], 3, 565-579.
 [Author] (1989) [Journal], 1, 2, 3, 25, 601-604.
 [Author] (1999) [Journal], 28, 367-399.
 [Author] (1974) [Journal], 20, 241-243.
 [Author] (2001) [Journal], 1, 161-164.
 [Author] (1979) [Journal], 2, 1, 73.
 [Author] (2006) [Journal], 41, 182-189.
 [Author] (2002) [Journal], 39, 1-7.
 [Author] (1996) [Journal], 35, 7802-7811.
 [Author] (1995) [Journal], 53, 50, 23, 23, 627-634.
 [Author] (2005) [Journal], 77, 212-221.

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