Definition

The *tail sigma algebra* of a sequence of random variables is the sigma algebra which is the intersection of the sigma algebras of all final parts of the sequence. A *tail event* is an element of the tail sigma-algebra.

The tail sigma algebra coincides with the sigma algebra generated by the union of the sigma algebras of each of of the random variables.

Notation

Let $(f_n)_n$ be a sequence of random variables. Denote the tail sigma algebra by $T((f_n)_n)$. We defined it as:

$$T((f_n)_n) = \bigcap_{n=1}^{\infty} \sigma(\{X_{n+k}\}_k).$$

In other words, for all natural n, the event is in the sigma algebra of the final part of ...

Results

Proposition 1. *The tail sigma algebra of a sequence of random variables is the same equals the sigma algebra generated by the union of the sigma algebras of each of the random variables.*

Tail Sigma Algebra

Sigma Algebras

Real Series

Real Limits

Absolute Value

Interval Length

Intervals

Real Line

Real Order

Real Sequences

Rational Order

Real Numbers

Sequences

Subset Algebras

Integral Line

Rational Numbers

Cardinality

Lists

Integer Arithmetic

Set Numbers

Direct Products

Integer Products

Natural Additive Identity

Natural Multiplicative Identity

Finite Sets

Natural Powers

Arithmetic

Identity Elements

Equivalent Sets

Integer Sums

Integer Order

Comparisons

Operations

Function Inverses

Family Unions and Intersections

Natural Products

Integer Numbers

Function Composites

Function Images

Families

Natural Sums

Equivalence Relations

Orders

Natural Order

Converse Relations

Functions

Recursion Theorem

Peano Axioms

Relations

Natural Induction

Ordered Pair Projections

Set Products

Subset Systems

Natural Numbers

Generalized Set Dualities

Set Powers

Ordered Pairs

Set Symmetric Differences

Partitions

Successor Sets

Intersection of Empty Set

Set Dualities

Unordered Triples

Set Unions and Intersections

Set Complements

Set Intersections

Pair Unions

Set Differences

Set Unions

Pair Intersections

Empty Set

Unordered Pairs

Geometry

Set Specification

Set Equality

Set Inclusion

Deductions

Quantified Statements

Logical Statements

Statements

Sets

Identities

Names

Letters

Objects