

Todo list

Fluid Mechanics

A very imprecise set of notes

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On the cover page:
The British Channel Seen from the Dorsetshire Cliffs
John Brett (1831–1902)
Tate

Contents

1	Review of set theory	1
1.1	Operations between sets	2
1.2	Algebraic structures (just a list of useful things, for now...)	3
1.3	σ -algebras	5
1.4	Limits of sets	8
2	Scratches	11
2.1	measure function	11
2.2	measure on semi-rings	11
2.3	external measure	11

Chapter 1

Scratches

Definition 1.0.1 (Partition). Let A be a set. A collection of sets $\mathcal{F} \subseteq \mathcal{P}(A)$ is a **partition** of A if distinct members of \mathcal{F} are disjoint and A can be expressed as the union of the sets in \mathcal{F} .

1.1 measure function

1.2 measure on semi-rings

measure can be defined on semi-rings. Semi-rings are good because they are semi-open intervals (or rectangles) in \mathbb{R} (or \mathbb{R}^n). But measures here are just finite additive.

To get to σ -additivity (i.e. to go into rings equipped with a measure) you need topology.

1.3 external measure

Covering? Maybe with the partition Infimum of all the possible coverings that one can build
External measure is monotonic triangle inequality $|m(A) - m(B)| \leq m(A \Delta B)$