



# Monotone Algebras

## 1 Why

TODO: changed to subset system

Closure under monotone limits is a weaker condition than that included in the definition of sigma algebras, but is sufficient if the set is also an algebra.

TODO: why

## 2 Result

If a subset algebra is a monotone space, then it is a countably summable subset algebra.

**Proposition 1.** *A subset algebra is a countably summable if either:*

- 1. the limit of a nondecreasing sequence of distinguished sets is distinguished*
- 2. the limit of a nonincreasing sequence of distinguished sets is distinguished.*

*Proof.* TODO

□