



## Why

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.<sup>1</sup>

## Result

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

**Prop. 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.*

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<sup>1</sup>Future editions will expand.



