

SUBSERIES NUMBERS FOR CONVERGENT SUBSERIES

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By rearranging the terms of a conditionally convergent series we can make it assume a different limit or even make it divergent. Similarly we could do so by taking a subseries of a conditionally convergent series. The rearrangement (and subseries) numbers are the least number of permutations (or subsets) of indices that are needed to change the behaviour of every conditionally convergent series. The rearrangement and subseries numbers are cardinal characteristics (cardinalities that are bound between \aleph_1 and the size of the continuum 2^{\aleph_0} and consistently different from either bound) and were subject of the eponymous papers [Bla+19] and [BBH19].

In this talk we showcase various general tools (relational systems, Tukey connections, forcing) that are useful in the study of cardinal characteristics, we will give an overview of the family of rearrangement and subseries numbers, we will compare them to various well-known other cardinal characteristics, and we will introduce dual rearrangement and subseries number.

This talk is based on my Master's thesis [Vlu19] and contains some new results from [Vlu].

REFERENCES

- [BBH19] Jörg Brendle, Will Brian, and Joel David Hamkins. “The subseries number”. In: *Fundamenta Mathematicae* 247.1 (2019), pp. 49–85. DOI: 10.4064/fm667-11-2018.
- [Bla+19] Andreas Blass, Jörg Brendle, Will Brian, Joel Hamkins, Michael Hardy, and Paul Larson. “The rearrangement number”. In: *Transactions of the American Mathematical Society* 373.1 (Oct. 2019), pp. 41–69. DOI: 10.1090/tran/7881.
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- [Vlu19] Tristan van der Vlugt. *Rearrangement and Subseries Numbers*. Master's thesis. 2019. URL: <https://tvdvlugt.nl/mthesis.pdf>.