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Thorsten Altenkirch* (txa@cs.nott.ac.uk). *The Joy of QIITs*.

Quotient inductive-inductive types (QIITs) are set-truncated mutually inductive higher inductive types. Applications include the definitions of the Cauchy Reals in the HoTT book and the partiality monad. In both cases the use of QIITs avoids having to use instances of the axiom of choice (here countable choice). Another example is the definition of the internal syntax of type theory avoiding untyped preterms.

In my talk I want to address the following topics:

- What is a general definition of QIITs?
- Can we construct QIITs from inductive types and quotients?
- What are the issues with set truncation?

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