

# Simple proofs of strong cut elimination

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## **Abstract**

We give simple proofs of strong cut elimination. The proofs are simple for three reasons: (i) we only consider intuitionistic implicational logic; (ii) the cut-elimination procedures under analysis call meta-operators that perform global transformations on derivations; (iii) the proofs consist in appealing to two properties of the  $\lambda$ -calculus (strong normalisation of the simply typed  $\lambda$ -terms and the so called fundamental lemma of perpetuality) plus a small combinatorial overhead.