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Non-well-founded derivations in the Gödel–Löb provability logic
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The Gödel–Löb provability logic GL is a modal logic describing all universally valid principles of the formal provability in Peano arithmetic. A proof-theoretic presentation of this logic in a form of a sequent calculus allowing circular and non-well-founded proofs was given several years ago. In this talk, I would like to discuss Hilbert-style non-well-founded derivations in GL and consider algebraic and neighbourhood semantics of this logic with the obtained derivability relation.