

Coherent Logic and Applications

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Abstract. Coherent logic (CL) is a fragment of first-order logic that is more expressive than resolution logic in that it allows a restricted form of existential quantification. Consequently, many theories can be formulated directly in CL, for example, without skolemization. CL has a simple proof theory yielding readable proofs. Thus it strikes a balance between expressivity and efficiency of automated reasoning. In the talk we give an overview of CL and its application in automated reasoning, proof assistants, model finding, and constraint handling.