Title: On Axiomatizations of Dynamic Epistemic Logic

Abstract:

Dynamic Epistemic Logic (DEL) is developed to reason about how knowledge of agents is changed by actions. The standard way to axiomatize it is via a reduction to epistemic logic using the so-called reduction axioms. In this work, we give a new complete axiomatization of DEL by using axioms known in the field of Epistemic Temporal Logic (ETL) and a new completeness proof inspired by ETL as well. Our axiomatization bridges ETL and DEL in a logical way: DEL is a special case of ETL. We will demonstrate the use of our new axiomatization by several related results.