



Diplomanden- und Doktorandenseminar  
des Instituts für Informatik

## Agents, Beliefs, and Plausible Behavior in a Temporal Setting

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Logics of knowledge and belief are often too static and inflexible to be used on real-world problems. We address this problem and extend **CTLK** (computation tree logic with knowledge) with a notion of *plausibility*, which allows for practical and counterfactual reasoning. The new logic **CTLKP** (**CTLK** with plausibility) includes also a particular notion of belief. A plausibility update operator is added to this logic in order to change plausibility assumptions dynamically. Furthermore, we examine some important properties and show that model checking **CTLKP** is **P**-complete and can be done in time linear with respect to the size of models and formulae.

Dienstag den 20. März 2007  
14.00 Uhr in Raum 106