

# TEMPORAL AND MULTI-AGENT LOGICS, COMMON KNOWLEDGE, SATISFIABILITY, UNIFICATION, ADMISSIBILITY

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In this talk we will report new recent results concerning non-classical logics and their possible applications for information sciences. In particular, we will consider temporal logics with distinct agents' valuations for propositional letters. In particular our analysis will concern distinct algorithms for computation truth values of formulas in such environment.

The case of multi-agent acting in local time, when the amount of available information will be restricted by only excising one in current local time will be considered. Thus approach will be modelled by clusters of time with agents accessibility to information latent inside. Besides, the rune of general time (which corresponds to the linear time computation run) will connect local time clusters. For this case we will consider possible modelling (interpretation) of the common knowledge, this concept was profoundly investigated by distinct researchers in past for standard understating of the time run, but the case with local common knowledge was not investigated in depth yet.

In pure logical terms we consider the multi-modal (or temporal) logics modelling this approach. We study (in suggested direction) most important problems concerning logical language - problems of satisfiability, unifiability and admissibility for inference rules. For the case of admissability we will also use technique of projective formulas and existence most general unifiers. Technique of enchanted filtration will be evolved also. By these instruments we will prove theorems stating existence of resolving algorithms.

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