MULTI-AGENT TEMPORAL AND MODAL LOGICS WITH DYNAMIC ACCESSIBLY RELATIONS

V. V. RYBAKOV

We will report our own results and results of other authors in Multi-agent Temporal and Modal logics with various temporal accessibility relations and their application in Informatics and CS. We will start with non-transitive logics where elements of interval logics are applied, and accessibility relations are non-transitive and chopped into intervals of bounded time. Next portion of results concerns logics with multi-valuations - the case when the agents have separated own valuations' relations for propositions. Next we describe results concerning logics with branching time. Final part of the report deals with logics which have dynamic accessibility relations - the case when any state (world) generate (and hence have) its own accessibility relation. We feel that it most close models the real run of time (or evolution of any thread in computational process) - any current state has its own time. Mathematically we study problems of satisfiability and decidability in these logics, problems of admissibility of possible inference rules. Report will contain examples and illustrations of applications.

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Institute of Mathematics and Informatics, Siberian Federal University,, Ave. Svobodnui 79, Krasnoyarsk, 660 041, and (part time), Institute of Informatics Systems of the Siberian Branch of the RAS, Novosibirsk,, Russian Federation

E-mail address: Vladimir_Rybakov@mail.ru