NON-CLASSICAL MULTI-AGENT LOGICS WITH MULTI-VALUATIONS

V. V. RYBAKOV

We study various modeling multi-agent reasoning and taking decision by instruments of non-classical logics. The departure point is usage some modifications of relational Kripke-Hinttikka models (in particular the ones with different accessibility relations or with different valuations of the agents knowledge). In particular, a kernel distinction from the standard relational models is introduction of separate valuations for each agents and then computation the global valuation using the all individual ones. We discuss this approach, illustrate it with examples and demonstrate that this is not a mechanical combination of standard models, but much more thin and sophisticated modeling knowledge and computation truth values in multi-agent environment.

Usual most important logical problems are addressed to that logics, in particular the satisfiability problem,the decidability problem and the admissibility problem. We solve them for some logics and find deciding algorithms, for some others that are yet open problems. Illustrating examples for applications to be provided.

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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