

Some Unexpected Properties of Partial Propositional Logic Based on Partial Approximation Space

Tamás Kádek, Tamás Mihálydeák

University of Debrecen, Faculty of Informatics
{kadek.tamas,kosa.mark,mihalydeak.tamas}@inf.unideb.hu

Abstract

Rough set theory can be considered as the foundation of various kinds of deductive reasoning. In this paper, the authors do some logical investigations about the possibility of using partial approximation of sets as semantics of a three-valued partial propositional logic. As a consequence of using the lower and upper approximation of sets, approximative functors appear in object language. Functors and three-valued semantics give a real possibility to investigate how to alter valid logical laws.

Keywords: Approximation of sets, rough set, partial logic, partial semantics