

理论科学研究

知识粗糙性和条件信息熵的关系

陈凤娟¹, 闫德勤²

1. 辽宁对外经贸学院 信息技术系, 辽宁 大连 116052

2. 辽宁师范大学 计算机与信息技术学院, 辽宁 大连 116029

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摘要 目前, 粗糙集理论存在着两种观点, 它们分别是代数观和信息观。在代数观点中, 知识粗糙性体现了知识的粒度; 而在信息观中, 定义了知识的信息熵和条件信息熵。已经有定理证明了信息熵与知识的粗糙性存在对应关系, 它建立了代数观和信息观之间的联系, 但是这种关系却不是一一对应的。该文通过重新证明知识粗糙性和信息熵的对应关系定理, 找到与知识粗糙性存在一一对应关系的是条件信息熵, 并给出相关定理及其证明。

关键词 [知识粗糙性](#) [信息熵](#) [条件信息熵](#)

分类号

Relationship between roughness of knowledge and conditional information entropy

CHEN Feng-juan¹, YAN De-qin²

1. Department of Information Technology, Liaoning University of International Business and Economic, Dalian, Liaoning 116052, China

2. Department of Computer Science, Liaoning Normal University, Dalian, Liaoning 116029, China

Abstract

At present, there are two views in rough set theory. They are algebra view and information view. The roughness of knowledge embodies the granularity of knowledge in algebra view. Two concepts are defined in information view, which are information entropy of knowledge and conditional information entropy of knowledge. Theorem has been proved that information entropy and roughness of knowledge have corresponding relationships. It establishes the link between algebra view and information view, but they are not one-to-one relationships. By re-prove the theorem on the relationship between information entropy and roughness of knowledge, this paper finds that it is conditional information entropy which exists one-to-one relationship with roughness of knowledge. Then several related theorems are given and proved.

Key words [roughness of knowledge](#) [information entropy](#) [conditional information entropy](#)

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通讯作者 陈凤娟 123chenfengjuan123@163.com

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