

عنوان مقاله:

Semilinear logics with knotted axioms

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خلاصه مقاله:

Standard completeness, completeness on the real unit interval $[0,1]$, is one of important research areas in mathematical fuzzy logic. Recently, standard completeness for semilinear logics with knotted axioms has been investigated *\emph{proof-theoretically}* by introducing and eliminating density rule. This paper introduces *\emph{model-theoretic}* completeness for such logics. To this end, it is first shown that knotted axioms can be divided into left and right ones and then proved that mianorm-based logic systems with left and right knotted axioms are standard complete. This completeness is provided by embedding linearly ordered algebras into densely ordered ones and these algebras again into $[0,1]$. More exactly, mianorm-based systems with left and right knotted axioms and their algebraic structures are first discussed. After some examples of mianorms satisfying left and right knotted properties are introduced, standard completeness for those logics is established model-theoretically using the above construction. Finally, this investigation is extended to their corresponding involutive fixpointed systems

کلمات کلیدی:

Knotted axioms, mianorm, semilinear logic, Fuzzy logic, substructural logic

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