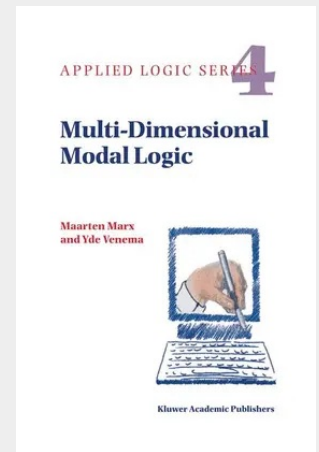


Multi-Dimensional Modal Logic

Modal Logic is a branch of logic with applications in many related disciplines such as computer science, philosophy, linguistics and artificial intelligence. Over the last twenty years, in all of these neighbouring fields, modal systems have been developed that we call multi-dimensional. (Our definition of multi-dimensionality in modal logic is a technical one: we call a modal formalism multi-dimensional if, in its intended semantics, the universe of a model consists of states that are tuples over some more basic set.) This book treats such multi-dimensional modal logics in a uniform way, linking their mathematical theory to the research tradition in algebraic logic. We will define and discuss a number of systems in detail, focusing on such aspects as expressiveness, definability, axiomatics, decidability and interpolation. Although the book will be mathematical in spirit, we take care to give motivations from the disciplines mentioned earlier on.

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