
MOSCHOVAKIS EXTENSION OF MULTI-REPRESENTED SPACES

DIMITER SKORDEV

Sofia University, Faculty of Mathematics and Informatics

Sofia, Bulgaria

skordev@fmi.uni-sofia.bg

ABSTRACT. Given a multi-represented space (in the sense of TTE theory), an appropriate multi-representation is constructed for the Moschovakis extension of its carrier. Some results are presented about TTE computability in the multi-represented space obtained in this way. For partial multiple-valued functions in the Moschovakis extension, a relative computability notion called neat computability is considered which is equivalent to absolute prime computability in the case of partial single-valued functions. We prove the TTE computability of any function which is neatly computable in some TTE computable functions (computability via single-valued realizations and computability via Brattka style ones are considered).

Keywords: Moschovakis extension, multi-represented space, TTE, single-valued function, multiple-valued function, realization, abstract first order computability, computable, absolutely prime computable, composition, juxtaposition, iteration, branching, first recursion theorem.

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¹Errata at

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