# ABOUT MODELLING OF BINARY DISCRETE SYSTEMS BY A GENERALIZED IMPULSE-RESPONSE

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For discrete systems (described as abstract automata) with binary input- and output-sets, a generalized principle of super position in respect of a pair of Boolean functions is introduced. The classes of systems for which this generalized superposition principle hold are characterized for all pairs of Boolean functions, actually depending on two variables.

As in the case of linear automata with initial state 0, it is possible to describe the input-output-behaviour of an automation belonging to these classes by a generalized impulse-response. Knowing this generalized impulse-response of a system belonging to these classes, in the paper is shown how to get an explicite state depending model of the system considered. The cases of infinite time-depending and finite systems are analysed.