

A NOTE ON THE FUNCTIONAL ESTIMATION OF
VALUES OF HIDDEN VARIABLES --
AN EXTENDED MODULE FOR EXPERT SYSTEMS

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ABSTRACT

The paper describes an extension of our work on the Generalized Production Rules System. In its original form, it could estimate at a given point of time or space the value of hidden variables -- variables that can be measured only intermittently or periodically. In contrast, open variables are readily measurable any time. The system establishes stochastic, causal relations, generalized production rules, between known values of hidden variables and certain mathematical properties of the open variables' behavior. These rules are then used to make the point estimates.

We have now provided the system with the additional ability to estimate the functional behavior of the hidden variables. The system can serve as a domain-independent module to a knowledge-based expert system in need of such numerical estimates.

