



## Evaluation of the mechatronic systems reliability under parametric uncertainties

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| Résumé en anglais              | <p>The main research intent of this paper is to evaluate the predicted reliability of mechatronic system, with take into account the epistemic uncertainties, The work reported here presents a new methodology based on integrating the petri network with the belief functions, in order to create a belief network, and to show how to propagate the parametric uncertainties in reliability models, Some notions of uncertainty related to the reliability systems are presented, subsequently a brief definition of the belief function and its application in reliability studies are detailed and how we integrate it in petri network. To take into account the interactive aspect of mechatronic systems, we introduce the uncertainties associated to this interaction, by implementing the new method proposed by using belief network. Secondly, we study the propagation of these interaction uncertainties in system reliability. Finally, in regard to applicate the methodology, an industrial example "intelligent actuator" is developed.</p> |
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