Diagnosis of partially observed petri net based on analytical redundancy relationships

Titre	Diagnosis of partially observed petri net based on analytical redundancy relationships
Type de publication	Article de revue
Auteur	Dardour, Amira [1], Kheder, Atef [2], Nasri, Othman [3]
Editeur scientifique	Kamoun, Anas [4]
Editeur	Wiley
Type	Article scientifique dans une revue à comité de lecture
Année	2018
Langue	Anglais
Date	03 Juillet 2018
Titre de la revue	Asian Journal of Control
Résumé en anglais	In this paper, we design an efficient diagnosis technique for partially observed discrete event systems modeled by labeled Petri nets. The fault detection is based on analytical redundancy relationships derived from the nominal model. The decomposition of the Tun-induced subnet to connected subgraphs allows determining the subgraphs that may contain faults. To appreciate the fault localization, a set of analytical redundancy relationships is established for each fault transition based on the fault model. The proposed diagnosis approach is independent of the length of the observed sequence and independent of the number of unobservable transitions. The detected faults with the proposed approach are faults which led to a change in the number of tokens in the net.
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DOI	10.1002/asjc.1832 [6]
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