Analysis of non-linear discrete event dynamic systems in (min, +) algebra

Titre	Analysis of non-linear discrete event dynamic systems in (min, +) algebra
Type de publication	Article de revue
Auteur	Hamaci, Samir [1], Boimond, Jean-Louis [2]
Editeur	Inderscience
Type	Article scientifique dans une revue à comité de lecture
Année	2011
Langue	Anglais
Date	2011/01/01
Numéro	2
Pagination	150 - 164
Volume	7
Titre de la revue	International Journal of Industrial and Systems Engineering
ISSN	1748-5037
Résumé en anglais	Under the name discrete event dynamic systems are grouped some systems whose dynamic behaviour cannot be described by differential equations. This class of systems includes many industrial systems, for which we study the flow entities (material, resources). This paper deals with the analysis of discrete event systems which can be modelled by timed event graphs with multipliers (TEGM). These models do not admit a linear representation in (min, +) algebra. This non-linearity is due to the presence of the weights on arcs. To mitigate this problem of non-linearity and to apply some basic results used to analysis the performances of linear systems in dioid algebra, we propose a linearisation method of mathematical model reflecting the behaviour of a TEGM in order to obtain a (min, +) linear model.
URL de la notice	http://okina.univ-angers.fr/publications/ua1453 [3]
DOI	10.1504/IJISE.2011.038564 [4]
Lien vers le document	http://dx.doi.org/10.1504/IJISE.2011.038564 [4]

Liens

[1] http://okina.univ-angers.fr/publications?f[author]=2058
[2] http://okina.univ-angers.fr/jeanlouis.boimond/publications
[3] http://okina.univ-angers.fr/publications/ua1453
[4] http://dx.doi.org/10.1504/IJISE.2011.038564