PETRI NETS, (MAX,+) ALGEBRA AND SCHEDULING

This is an introduction to the modeling and analysis of Petri nets using the (max,+) algebra. We recall first some basic results on the spectral theory in the (max,+) algebra. Then, we show how timed event graphs can be represented as (max,+) linear systems. At last, we consider timed one-bounded Petri nets and their representation using (max,+) automaton. The results are illustrated using manufacturing examples and scheduling problems.