Title: Application of Paraconsistent Annotated Logic Program EVALPSN to Intelligent Control/Safety Verification

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Abstract

I have already proposed a paraconsistent annotated logic program called Extended Vector Annotated Logic Program with Strong Negation (EVALPSN), which can deal with conflict resolving and defensible deontic reasoning. These EVALPSN reasoning functions have been applied to various intelligent control and safety verification systems such as pipeline valve control, traffic signal control, railway interlocking safety verification, etc. I introduce these applications of EVALPSN with some simulation systems.

Moreover, I have developed EVALPSN to deal with before-after relations between processes (time intervals) The developed EVALPSN has been named bf (before-after)EVALPSN. It has been shown that bf-EVALPSN can be applied to real-time process order control with a simple example of pipeline control. In this lecture, it will also be introduced how to apply bf-EVALPSN to intelligent real-time process order control and safety verification with examples and simulation results.