

2015-08-12

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DATE paper:

Problem statement - A custom processor Architecture for implantable medical devices

HA Semantics:

Read citations 22 + 23

"Modular Code Generation from Hybrid Automata based on Data Dependency"  
"Generating Embedded Software from Hierarchical Hybrid Models"

$\Delta: l, \delta, g(y), f(x)$

$$\dot{x} = f(x) + g(y)$$

$$x_{n+1} = x_n + \delta x [f(x) + g(y)]$$

$\Delta: Loc \times R \times R \times R^m \rightarrow R^m$

(Write it for the heart for now, can expand the  $g(y)$  part to make it generic later)

Def 1 ✓ HA + Strengthen Fairness Req

Def 2 ✓ TTS

Def 3 ✗

Def 4 ✗

Def 5 ✓ SHA - Change Suitness to  $\Delta$

Def 6 ✓

Def 7 ✗

+ Synchronous parallel composition with delayed semantics ala  
IEEE TC 2009 Young et al.

Methodology may be similar

Other papers are unable to do cyclic ODEs  
→ We can because of pre