DESIGN AND IMPLEMENTATION OF STEPPER MOTOR CONTROL OF THE LINAC HIGH POWER RF SYSTEM BASED ON FPGA

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THPI8 October 18, 2018 PCaPAC 2018, Hsinchu, Taiwan 12th International Workshop on Emerging Technologies and Scientific Facilities Controls



SYNCHROTRON THAILAND CENTRAL LAB

Synchrotron Light Research Institute (SLRI)





The Siam Photon Source (SPS)

- 1. Thermionic Electron Gun
- 2. 40-MeV Linac
- 3. Booster Synchrotron (1.0 GeV)
- 4. Storage Ring (1.2 GeV)



RF System of SLRI's Linac





Linear Accelerator

Linac RF distribution diagram





Phase Shifter/Amplitude Attenuator



Front Panel Display (Motor Position)

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Hardware

Commercial Stepper Motors & Electronic Controllers







freqdiv_unit freqcount_comparator require_unit freqcount_unit_0 comparator_0 compa

FPGA Baseboard & FMC Debug Card Daughter board





Digital Circuits for GUI interface

and motor pulses and direction control



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Software





your attention !

Thank

For details, please see THP08

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