

WIB firmware status

A. Madorsky for WIB firmware team

General news

**Adrian Nicolica has taken the responsibility for
Timing module**

Simulation status

I2C module

- I2C module is working
- Was unable to use standard Xilinx I2C module
- COLDATA I2C is too incompatible with I2C standard
 - ❖ Had to write my own
 - ❖ Logic is fairly simple
- Discovered a couple of “features” in COLDATA I2C code
- Confirmed by David – these are in silicon
 - ❖ Both related to I2C chip ID processing in COLDATA
 - ❖ Lead to failing or incorrect read operations when changing chip ID
 - ❖ Using workarounds for both features

Simulation status

COLDATA serial link receivers

- **GTH receivers implemented**
- **Observe K28.5 patterns that COLDATA is sending by default**
- **Reprogrammed patterns via I2C to send PRBS or FIFO outputs**
- **Can see data changing correspondingly**

ColdADC outputs

- **ColdADC outputs are in unknown state after reset**
- **Reprogrammed “config_regfile_inst” register to output test patterns**
- **Can see test patterns on ADC outputs**

Simulation status

FAST COMMAND module

- Design underway
- Simple logic, should be no problems

Plans:

- Learn how to apply realistic test patterns to the inputs of ColdADC chips
- Need these patterns in some form
- Preferably something resembling the output of the actual detector
- Anyone can help with this?



I2C transactions



ColdADC outputs (test patterns)