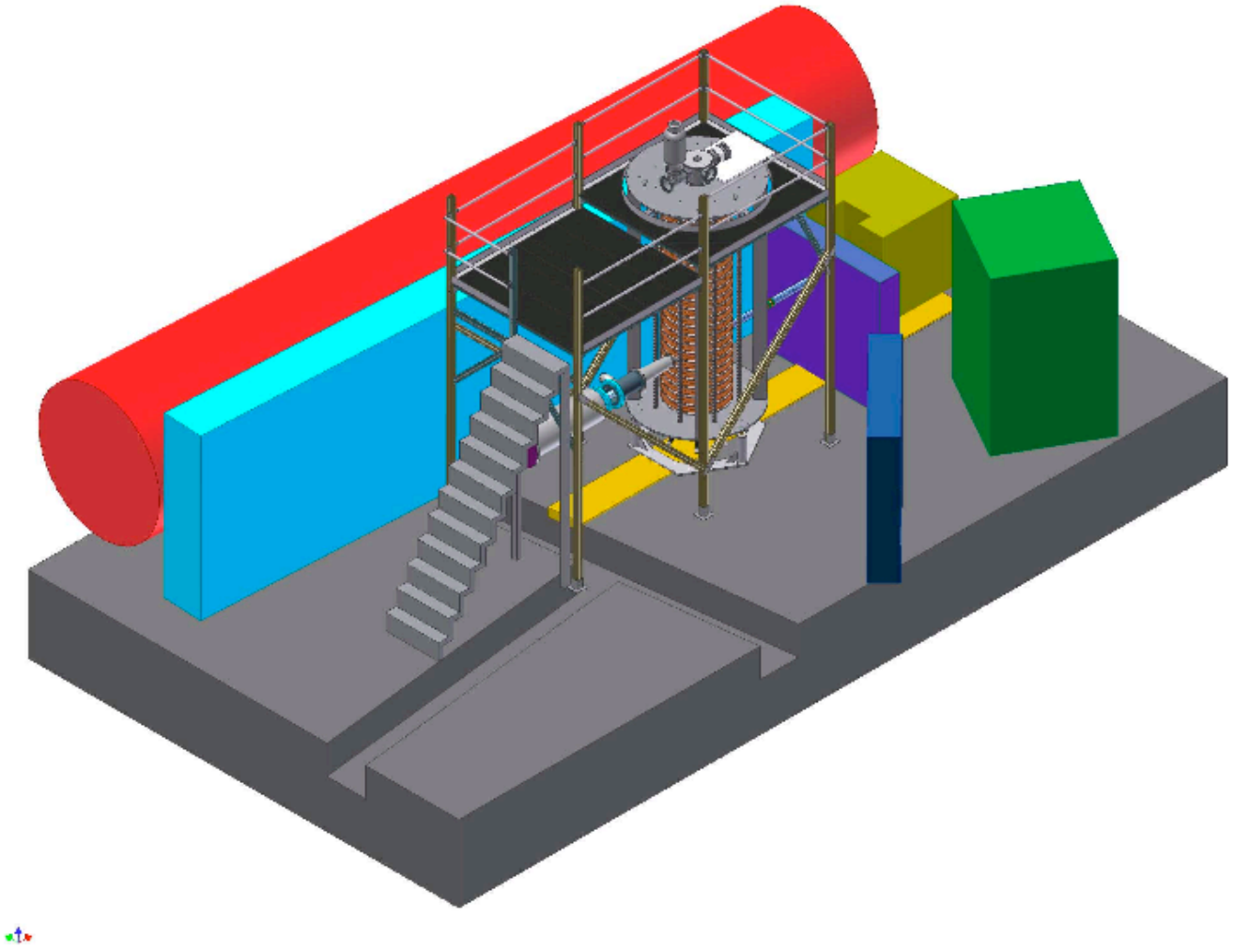
aCORN Status Overview

F. E. Wietfeldt
March 26, 2008



Systems complete (or nearly so):

- Magnetic flux return and stand
- Main vacuum chamber
- Beta spectrometer
- Beam dump (emiT)

In hand, in development:

- Main coils and power supplies
- DAQ (Pixie 16, iSeg HV system, LED gain stabilization)

In fabrication:

- Field mapping insert
- Collimation insert
- Neutron transport
- People platform
- Trim coils

To be designed, procured:

- Proton detector
- Cryogenics and vacuum systems
- Test sources (beta, proton, electrons for field verification)
- Beamline and shielding (LENS run)

Issues of Concern

Money

- Remaining MRI funds must be obligated by July 31.
- Do we have enough to finish construction? (probably OK)
- Off-shelf items - look for existing solutions (see Ed's list)
- Operational grants in hand

LENS Test Run

- Decision - LENS not to be on our critical path
- Benefits from test run at LENS
- Additional costs: beamline, shielding, time & effort
- level of support from LENS staff (minimal)

Manpower at IUCF for next year

- More needed! - especially during 08-09 academic year

NIST Schedule

- Probably can move to NIST in summer 2009 and start running fall 2009

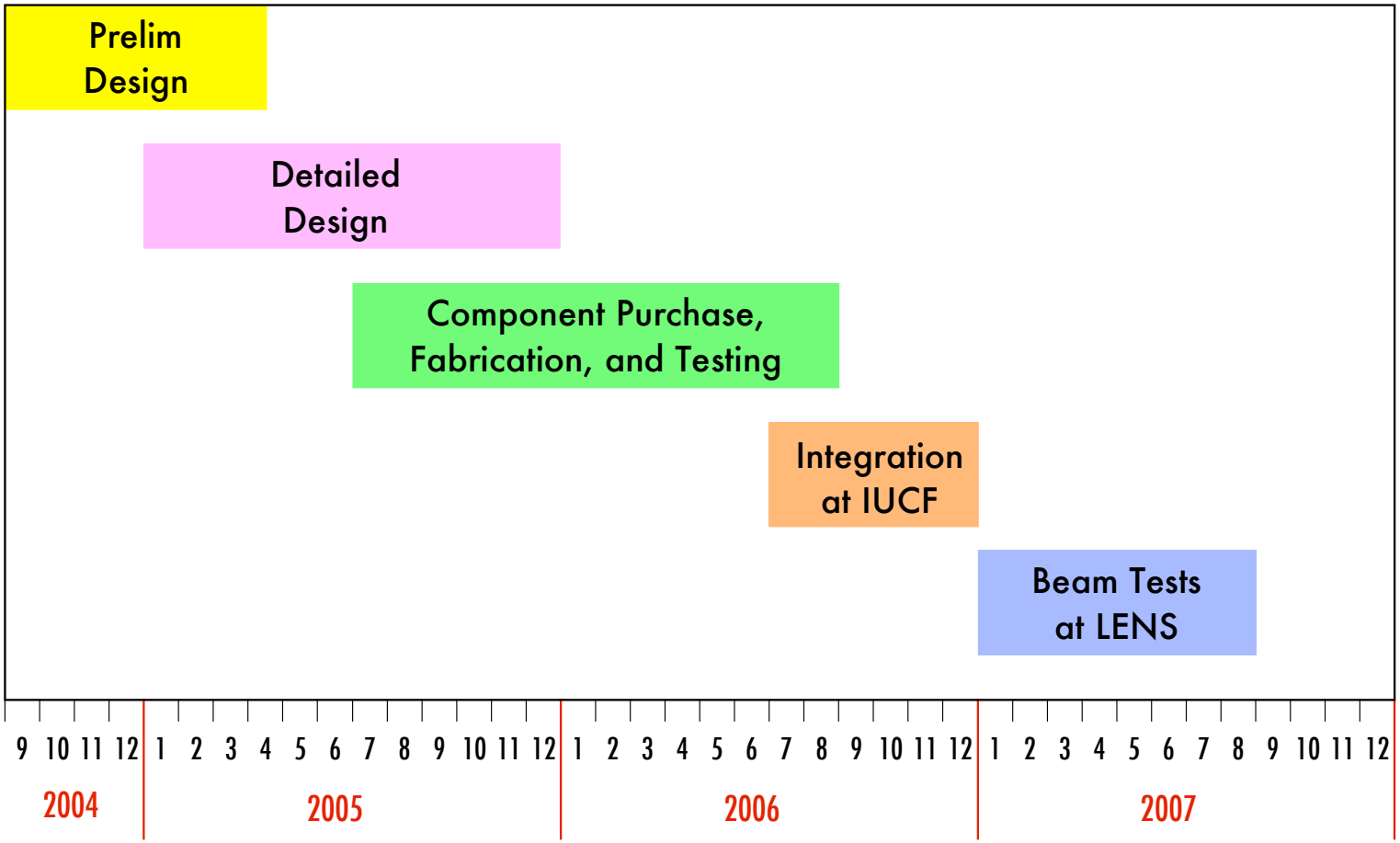
For the silicon detector system operating at -30 kV:

- preamp power (probably out of NIM crate)
- silicon bias supply
- high voltage for guard ring
- high voltage for grid
- optical link for silicon signal
- (additional silicon signal shaper, if needed)
- thermometers
- pulser
- NIM crate

Other items (at ground potential):

- Silicon high voltage (-30 kV)
- isolation transformer (>30 kV)
- main coil magnet power
- beta trim 1 and 2 magnet power
- field shimming supplies (6-8)
- HV standoff equipment for silicon system (Faraday cage)
- high voltage for mirror
- filiment current supply
- 4-jaw collimator current readout
- high vacuum pumps (2-3)
- roughing pump(s)
- vacuum gauges (TC and high vacuum)
- high voltage for silicon plate
- cables and connectors
- water cooling interlocks
- Faraday cage interlocks
- liquid nitrogen dewar and fill line

"a" Proposed Schedule



A Novel Method to Measure *a*

(Yerozolimsky and Mostovoy, 1996)