

#### The PAC36 Presentation

Curtis A. Meyer
Carnegie Mellon University
12-May-2010



# The PAC36 Meeting

- Week of August 23, 2010
- Assign Scientific Priorities to Approved Experiments
- Scientific Categories Reviewed
  - The hadron spectra as probes of QCD
  - The longitudinal structure of the hadrons
  - Hadrons and cold nuclear matter
- PAC35 looked at the category.
  - Transverse structure of the hadrons



# The PAC36 Meeting

- Week of August 23, 2010
- Assign Scientific Priorities to Approved Experiments
- Scientific Categories Reviewed
  - The hadron spectra as probes of QCD
  - The longitudinal structure of the hadrons
  - Hadrons and cold nuclear matter
- PAC35 looked at the category.
  - Transverse structure of the hadrons



## Format of the PAC Meeting

- A rapporteur will overview the science of the category.
- Each experiment will present 3 slides (~10 min.
- Summarize the scientific case for the experiment.
- Summarize the data anticipated and its projected accuracy.
- Anything else the collaboration would like to add.
- Possible questions from PAC and grading.



#### **Documentation for The PAC**

GlueX will submit a (maximum) ten-page update to our original proposal. The update is due on July 1, 2010.

GlueX will work the rapporteur to help develop their presentation.

Copies of the three slides are due the week before the PAC meeting.



#### **Outline of the Documentation**

- Introduction (1/3 page).
- Scientific progress on exotics since 2005 (4 pages).
  - Lattice QCD results (arXiv:1004.4930).
  - Experimental work (arXiv:1004.5516).
  - Other work.
- Analysis progress in GlueX (2 pages).
  - PWA study from GlueX.
  - Progress in amplitude analysis.
- Updates to the experimental setup (3 pages).
  - CD2/CD3 reviews and collaboration participation.
  - Changes to the detector.
  - Status of construction.
- Other physics in Hall-D/Gluex (1/3 page).
  - Cascade baryons
  - PrimEx
- Summary (1/3 page).



#### **Outline of the Documentation**

- Introduction (1/3 page).
- Scientific progress on exotics since 2005 (4 pages).
  - Lattice QCD results (arXiv:1004.4930).
  - Experimental work (arXiv:1004.5516).
  - Other work.
- Analysis progress in GlueX (2 pages).
  - PWA study from GlueX.
  - Progress in amplitude analysis.
- Updates to the experimental setup (3 pages).
  - CD2/CD3 reviews and collaboration participation.
  - Changes to the detector.
  - Status of construction.
- Other physics in Hall-D/Gluex (1/3 page).
  - Cascade baryons
  - PrimEx
- Summary (1/3 page).

Most important part of the 10 pages.



- We need input (text) from a number of people.
- The report should be written by one person to maintain a uniform style.
- We should have a week-long review period to finalize the report.



- Introduction (1/3 page).
- Scientific progress on exotics since 2005 (4 well as the new material he is working on
  - Lattice QCD results (arXiv:1004.4930).
  - Experimental work (arXiv:1004.5516).
  - Other work.
- Analysis progress in GlueX (2 pages).
  - PWA study from GlueX.
  - Progress in amplitude analysis.
- Updates to the experimental setup (3 page
  - CD2/CD3 reviews and collaboration pa
  - Changes to the detector.
  - Status of construction.
- Other physics in Hall-D/Gluex (1/3 page).
  - Cascade baryons
  - PrimEx
- Summary (1/3 page).

The recent lattice calculations from Joe as well as the new material he is working on are important inputs.

The recent review from Yves and I on exotics is very up to date on the experimental situation.

The case for the GlueX program is stronger now than it was in 2006.

Curtis with help from Joe



- Introduction (1/3 page).
- Scientific progress on exotics since 2005 (4 pages).
  - Lattice QCD results (arXiv:1004.4930).
  - Experimental work (arXiv:1004.5516).
  - Other work.
- Analysis progress in GlueX (2 pages).
  - PWA study from GlueX.
  - Progress in amplitude analysis.
- Updates to the experimental setup (3 pages) Use of the Grid.
  - CD2/CD3 reviews and collaboration parti
  - Changes to the detector.
  - Status of construction.
- Other physics in Hall-D/Gluex (1/3 page).
  - Cascade baryons
  - PrimEx
- Summary (1/3 page).

Analysis from the physics working group. We have Blake's eta-pi analysis. Will we have a 3-pi analysis?

Improvements to amplitudes?

Use of GPUs.

Ryan, Matt, Richard



- Introduction (1/3 page).
- Scientific progress on exotics since 2005 (4 page What have the changes to the
  - Lattice QCD results (arXiv:1004.4930).
  - Experimental work (arXiv:1004.5516).
  - Other work.
- Analysis progress in GlueX (2 pages).
  - PWA study from GlueX.
  - Progress in amplitude analysis.
- Updates to the experimental setup (3 pages).
  - CD2/CD3 reviews and collaboration partic
  - Changes to the detector.
  - Status of construction.
- Other physics in Hall-D/Gluex (1/3 page).
  - Cascade baryons
  - PrimEx
- Summary (1/3 page).

What have the changes to the equipment been, and why? I think that our changes have been the results of reviews.

About 1 short paragraph on each system. We do not want to overwhelm the reader here.

Each system should provide a list of the changes with a reason to me and I will put it together.

**Curtis** 



- Introduction (1/3 page).
- Scientific progress on exotics since 2005 (4 pages).
  - Lattice QCD results (arXiv:1004.4930).
  - Experimental work (arXiv:1004.5516).
  - Other work.
- Analysis progress in GlueX (2 pages).
  - PWA study from GlueX.
  - Progress in amplitude analysis.
- Updates to the experimental setup (3 pages).

  - Changes to the detector.
  - Status of construction.
- Other physics in Hall-D/Gluex (1/3 page).
  - Cascade baryons
  - PrimEx
- Summary (1/3 page).

 CD2/CD3 reviews and collaboration p About one short paragraph (4 lines) Per physics topic (max). Our main job Is to present the physics case for Which we were approved.

> If people can provide me with some Lines of text, I will put it together.

#### Curtis



- Introduction (1/3 page).
- Scientific progress on exotics since 2005 (4 pages).
  - Lattice QCD results (arXiv:1004.4930).
  - Experimental work (arXiv:1004.5516).
  - Other work.
- Analysis progress in GlueX (2 pages).
  - PWA study from GlueX.
  - Progress in amplitude analysis.
- Updates to the experimental setup (3 page is written.
  - CD2/CD3 reviews and collaboration pa
  - Changes to the detector.
  - Status of construction.
- Other physics in Hall-D/Gluex (1/3 page).
  - Cascade baryons
  - PrimEx
- Summary (1/3 page).

These two sections will go together when the main text is written.

Curtis



#### **Time Line to PAC36**

```
May 10 Outline of 10-page document, main references for scientific case.
May 17
May 24
May 31 Need input from outside people
June 7
June 14 Latest time for PWA results.
June 21 Full draft of report needed.
June 28 10-page update due on Thursday, July 1
July 5
July 12
July 19
July 26
August 2
August 9
August 16 Slides needed for PAC36.
August 23
```