

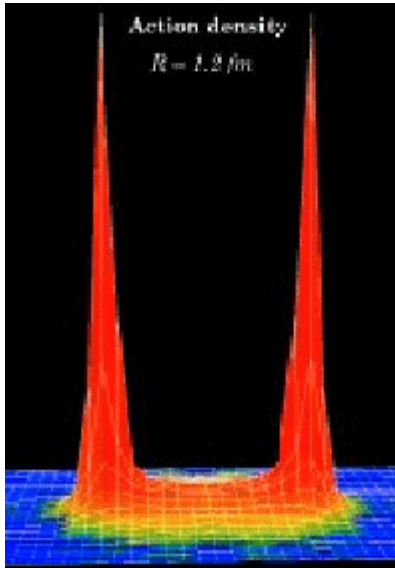
GlueX Collaboration Meeting

October 25-27, 2007

Jefferson Lab

This is approximately our 20'th such meeting

How Did We Get Here?



1997

10/25/2007

2007

> 10 years

GlueX Collaboration Meeting

Physics (2014)

Hall D at Jefferson Lab
www.gluex.org

Our goal is to understand the nature of confinement in Quantum Chromodynamics by mapping the spectrum of mesons generated by the excitation of the gluonic field binding the quarks.

This experiment will use electrons from the energy-upgraded CEBAF accelerator at Jefferson Lab in Newport News, VA. The electrons will pass through a diamond crystal to produce linearly polarized photons via coherent bremsstrahlung. These photons are the probes that will uncover these new mesons.

The GlueX/Hall D Collaboration

- CSSM - Adelaide
- Carleton
- Carnegie Mellon
- Catholic
- Christopher Newport
- Connecticut
- Cracow
- Florida International
- Florida State
- Glasgow
- Hampton
- Indiana
- Jefferson Lab
- Los Alamos
- Moscow State
- Budker - Novosibirsk
- Ohio
- Old Dominion
- Pittsburgh
- IHEP-Provino
- Regina
- Rensselaer
- Tennessee/ORNL

exciting the glue

D₊ wave

events/0.040 GeV/c²

\sqrt{s} effective mass (GeV/c²)

A hermetic detector in a new experimental hall (Hall D) will be used to detect this new family of mesons by measuring the patterns of their decays.

Developing the Physics

- July 1997 - Workshop at Indiana University
Explore Community Interest
- November 1997 - Workshop at NCSU
Explore the Physics Interest and Feasibility
- March 1998 - Workshop at Carnegie Mellon
Explore Potential Detector Designs
- May 1998 - WorkFest at Indiana University
Begin Simulation of Physics and Detectors
- June 1998 - Presentation to the JLab User's Group
Public Presentation to the JLab Community
- September 1998 - Workshop at Florida State Univ.
Continues Exploration of the Physics and Detectors
Hall D Preliminary Design Report 170 pages

Making the Science Case

- January 1999 - Presentation to the JLab PAC
Initial Review of the Science by an external Committee
- March 1999 - Workshop at RPI **COLLABORATION FORMED**
Officially organize as an experiment - The HallD Experiment
- August 1999 - Collaboration Meeting at Jefferson Lab
Hall D Design Report, Version 2 191 Pages
- December 1999 - Collaboration Meeting at Jefferson Lab
Prepare for the external review
- December 1999 - **EXTERNAL REVIEW OF THE PROJECT**
The first significant review of the project, an external committee reviews things for 2 days.

Preparing for NSAC 2001

- January 2000 - Report of the Cassell Committee
VERY POSITIVE
- March 2000 - Meeting with DOE and NSF in DC
- April 2000 - Collaboration Meeting at Indiana University
Solidify the Science Case. Educate the Community
- August 2000 - Collaboration Meeting at Jefferson Lab
September 2000 - American Scientist Article
- October 2000 - The APS DNP Meeting
The Duck Workshop on Key Questions in Hadronic Physics
Hall D Design Report: Version 3
- December 2000 - The NSAC Town Meeting at JLab
- January 2001 - New Administration Sworn in - Pres. Bush**
- March 2001 - Collaboration Meeting at Jefferson Lab
- April 2001 - The NSAC Long Range Plan Meeting

After NSAC 2001

The JLab Upgrade and HallD were one of four recommendations that came out of the NSAC Meeting.

- June 2001 - Collaboration Meeting at Jefferson Lab
The collaboration begins the push for Critical Decision 0
- October 2001 - Collaboration Meeting at Indiana Univ.
- March 2002 - Collaboration Meeting at Jefferson Lab

New Name: The GlueX Collaboration

President Bush appoints Raymond Orbach to head the DOE office of Science.

- April 2002 The Long Range Plan is Published
- June 2002 - Meeting with Raymond Orbach in D.C.
- July 2002 - JLab Science and Technology Review
Review Carried out by DOE Nuclear Physics
- August 2002 - JLab Institutional Review
Review Carried out by Raymond Orbach

Finally into the CDs

12 GeV Upgrade
CD-0 Signing at
Jefferson Lab
April 19, 2004



Deputy Energy
Secretary
Kyle McSlarrow

Release of 20-year Science Plan



November 2003

Self-Inflicted Detector Reviews

July 2003: Held a 2-day review of GlueX Electronics

October 2004: Held a 2-day review of the GlueX Detector.

November 2004: Solenoid Assessment

January 2006: Tagger Review

Spring 2007: Drift Chamber Review

Winter 2008: Calorimeter Review

February 2006: Project Receives CD-1

Secretary of Energy Announces Approval and Funding for Facilities Upgrade at the Thomas Jefferson National Lab and Highlights Lab's Successful Education Programs

NSAC Long Range Planning Meeting - May 2007

The 12 GeV upgrade was listed as the number one priority of the field with the important physics that can be carried specifically mentioned.

Summer of 2007 saw the Lehman Reviews for the granting of CD2 take place. We are still on track to CD2 late this year.

Into the Future

We as a collaboration have come a long way! Driven mostly by outside users, we have put together a great team that has built the intellectual case for the project, defined the scope and needs to carry out the physics, hung together through 10 years of wondering when this can really happen, and historically has had an excellent working relation with all team members.

...but 10 years has taken its toll.

Manpower Situation

Over the last year, Jefferson Lab has hired a Hall Leader and started a significant build up of the hall staff that will support both the construction and operation of the experiment.

The budget situation of 2005/2006 has taken a Toll on our outside groups. Several groups were Unable to join and manpower losses in other groups Are only now getting addressed.

Now is an opportune time to look for new collaborators With new ideas to move us forward.

The Construction Era

We hope that CD3 will come in about a year. This means That "Start of Construction" is planned for the start Of 2009!

To get there, there is still a lot of work to do to be able to pass the reviews next summer.

What comes over the next many years will be different from what any of us have ever done. The level of project management imposed from above is quite high!

The Construction Era

To get through this, we are all going to have to work together harder than before and the lines of communication at all levels will need to function smoothly and efficiently.

A goal of this meeting is to spell out what will need to be done over the next 9 months to be ready for the CD3 reviews next summer.

I have no doubts that a group that has accomplished so much will be able to do this and still very much look forward to the exciting physics from GlueX!