

Hall C Users Group Business Meeting

Hall A/C Collaboration Meeting July 8-9 2021

- Hall C Users Board make up
- SHMS NIM paper status – no update

Hall C Users Group Webpage

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EXPERIMENTAL HALL C

Meetings

- [Joint Hall A & C Summer Collaboration Meeting, July 8-9, 2021 \(Registration\)](#)
- [Hall C Users Meeting, January 28-29, 2021](#)
- [Joint Hall A & C Summer Collaboration Meeting, July 16-17, 2020](#)
- [Hall C Users Meeting, January 28-29, 2020](#)
- [Joint Hall A & C Summer Collaboration Meeting, June 27-28, 2019](#)
- [Hall C Users Meeting, January 28-29, 2019](#)
- [Joint Hall A & C Data Analysis Workshop,](#)

Physics

- [Approved 12GeV Experiments, All 12 GeV](#)
- [Approved 6GeV Experiments, All 6 GeV](#)
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General Information

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Hall C Users Group Webpage

User Board

The SHMS-HMS User Group was formally started at the 2009 Hall C summer workshop when the initial user board was appointed by the Hall C leader. Members were appointed with staggered terms. As the terms of the initial board expire, elections are held by the user group to replace board members.

Current Board 2020—2021

Board Member	Email	Institution	Term expires
Holly Szumila-Vance	hszumila@jlab.org	JLab	9/1/2021
Dipankar Dutta	ddutta@jlab.org	MSU	9/1/2021
David Hamilton	dhamilto@jlab.org	Glasgow	9/1/2022
Simona Malace	simona@jlab.org	JLab	9/1/2022
Arun Tadepalli	arunts@jlab.org	JLab	9/1/2023
Tanja Horn	hornt@cua.edu	CUA	9/1/2023

Rotating out this year

Elections will be held soon!
Expect to hear from David Hamilton

SHMS NIM paper status

The draft is on overleaf; no changes since the January meeting; Roger Carlini is coordinating

The screenshot displays the Overleaf web interface for a project titled "SHMS NIM paper". The browser address bar shows the URL: <https://www.overleaf.com/project/5e9667e71bb568000124b3f3>. The interface includes a top navigation bar with options like "Menu", "Review", "Share", "Submit", "History", and "Chat". A left sidebar shows a file explorer with folders like "aerogel", "conclude", "drifts", "hgcerenk", "intro", "ngcerenk", "optics", "performance", "quartz", "scint", "shielding", and "shower". The "quartz" folder is expanded, showing files like "quartz.tex", "shms_s2y_ampfi...", "shms_s2y_intfit...", and "shms_s2y_intfit...". The main content area displays the "Abstract" section of the paper, which describes the SHMS (Super High Momentum Spectrometer) built for Hall C at the Thomas Jefferson National Accelerator Facility. The abstract mentions a momentum capability reaching 11 GeV/c and details the detector system and its shielding. Below the abstract, the "Keywords" are listed: Magnetic spectrometer, Electron scattering, Tracking detectors, Particle identification, Electron calorimetry, Radiation shielding. The bottom of the image shows the beginning of the "1. Introduction" section, with line numbers 1 through 19 visible on the left margin.

Abstract

The *Super High Momentum Spectrometer* (SHMS) has been built for Hall C at the Thomas Jefferson National Accelerator Facility (Jefferson Laboratory). With a momentum capability reaching 11 GeV/c, the SHMS provides measurements of secondary charged particles produced in electron scattering experiments using the maximum available beam energy from the upgraded Jefferson Lab accelerator. The SHMS is an ion-optics magnetic spectrometer comprised of a series of new superconducting magnets to transport events on an array of triggering, tracking, and particle-identification detectors that measure momentum, energy, angle and position in order to allow kinematic reconstruction of the events back to their origin at the scattering target. The detector system is protected from background radiation by a sophisticated shielding enclosure. The entire spectrometer is mounted on a rotating support structure which allows measurements to be taken with a large acceptance over laboratory scattering angles from 5.5° to 40° , thus allowing a wide range of low cross-section experiments to be conducted. These will complement and extend the previous Hall C research program to higher energies.

Keywords: Magnetic spectrometer, Electron scattering, Tracking detectors, Particle identification, Electron calorimetry, Radiation shielding.

1. Introduction

The electron beam at Jefferson Lab operates at high duty cycle, with beam repetition rates of 249.5 or 499 MHz delivered to the experimental halls. High beam polarization ($> 80\%$) is also routinely available.

In the 6 GeV era, Halls A, B, and C executed a large program of experiments focusing primarily on eluci-