

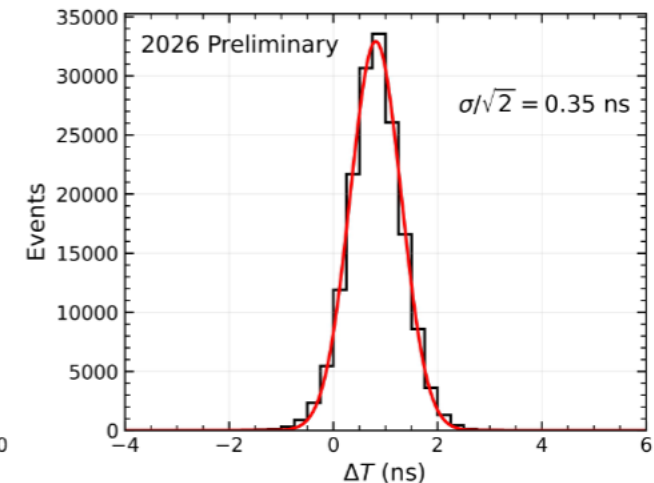
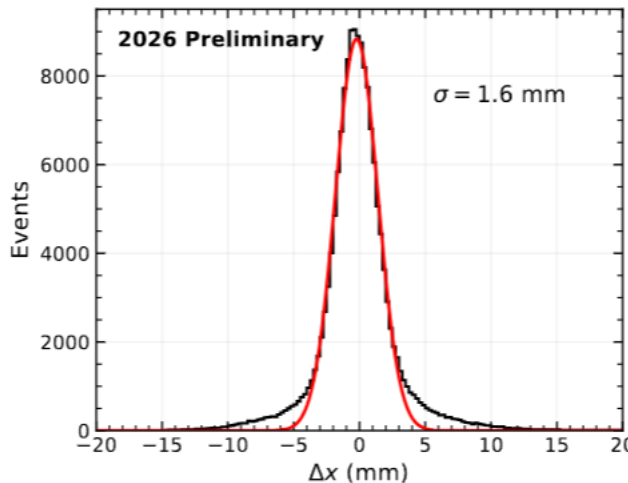
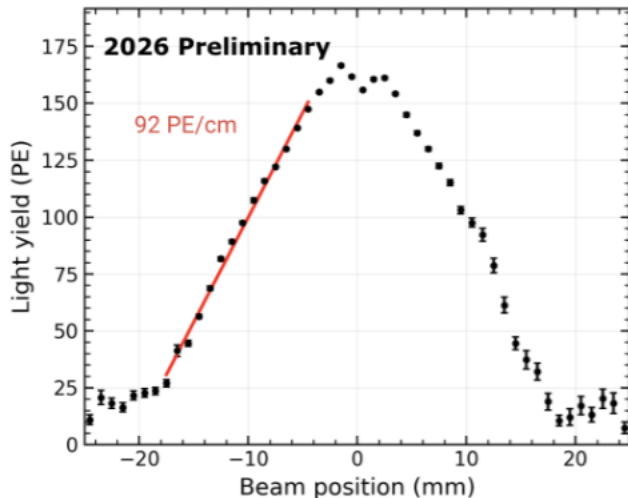
Muon Report at US HFCC L2/L3 meeting

Bing Zhou

Aug. 7, 2026

R&D activities on muon hybrid detector concept – drift tubes + scintillator strips

- ❖ Continue analyzing the test beam data from a sMDT tracker and two scintillator strip prototypes
 - sMDT (96 readout channels) achieved resolution better than 100 microns resolution per tube
 - Two prototype modules, each containing eight 1-meter-long Fermilab triangular strips instrumented with Kuraray WLS fibers, Hamamatsu SiPMs, and CAEN electronics, were beam tested at CERN together with the sMDT tracker. Preliminary results show a light yield of ~ 90 photoelectrons(PE)/cm, a position resolution of ~ 1.6 mm, and a timing resolution of 350 ps, including an estimated 280 ps contribution from the readout electronics.



News

- ❖ Bing Zhou and Junjie Zhu delivered two lectures in the **DRD1 gaseous detector school FRIB (Michigan, USA), 8-17 July, 2026**

<https://indico.cern.ch/event/1572535/program>

- ❖ The muon talk (15 minutes) at the HFCC meeting at SLAC will be given by Elliott Chai (a Michigan student who has registered for this meeting, Email: chaielli@umich.edu).

Title: "Test beam results of muon prototype combined drift tubes and scintillator strips".