

Calendar

[Have a safe day!](#)

Thursday, July 25

THERE WILL BE NO THEORETICAL PHYSICS SEMINAR TODAY

3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

Friday, July 26

3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

4 p.m.
[Joint Experimental-Theoretical Physics Seminar](#) - One West
Speaker: Chris Tully, Princeton University
Title: Summary of TLEP13 Workshop

Click here for [NALCAL](#), a weekly calendar with links to additional information.

[Ongoing and upcoming conferences at Fermilab](#)

Campaigns

[Take Five](#)

Weather



Increasing clouds
79°/61°

[Extended forecast](#)
[Weather at Fermilab](#)

Current Security Status

Video of the Day

Time-lapse video: second night of Muon g-2 ring land journey to Fermilab



This 96-second time-lapse video shows the Muon g-2 ring as it moves north on I-355. [View the video.](#)
Video: *Fermilab*

Photo of the Day

Recycler and Main Injector injection region



Fermilab staff have been busy getting the Main Injector and Recycler ready for beam. This photo shows the area of the tunnel where the M18 beamline splits into the Main Injector and Recycler injection lines. *Photo: Marty Murphy, AD*

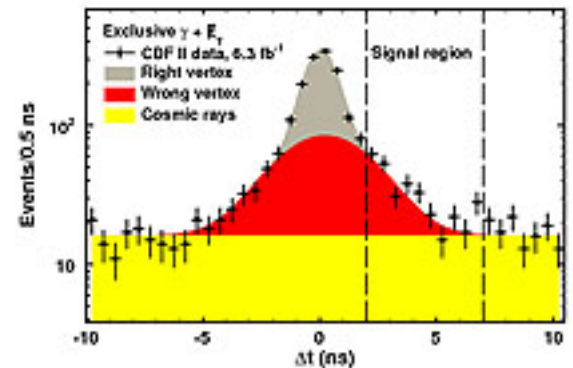
Wellness Feature of the Month

August wellness offerings, fitness classes and discounts

Wellness offerings for August include Fermilab fitness classes, free wellness offerings and new employee discount information.

Frontier Science Result: CDF

Searching for delayed photons



This plot shows the final data in the exclusive (photon + missing energy) final state, along with the backgrounds as modeled from data. The signal region for this analysis is from 2 to 7 nanoseconds.

The CDF collaboration has just completed a new search for "delayed" photons, this time in the exclusive photon-plus-missing-energy final state. Delayed photons are a smoking-gun signature of heavy, long-lived particles that are often predicted in gauge-mediated supersymmetry-breaking scenarios. If produced in a collision, a long-lived particle can traverse part of the detector before finally decaying into a photon and a non-interacting particle or particles. Thus the photon will take longer to reach the detector than expected, compared to a photon that originated in the main proton-antiproton interaction—hence the "delayed" term in the moniker.

With the CDF electromagnetic timing system capable of recording the arrival time of photons with a resolution of 0.6 nanoseconds, many timing searches are possible. What is unique about this search is the final state under study: exclusive photon plus missing energy. This has never been done before because of its innate complexity; previous searches of this kind, performed both at [CDF](#) and at the LHC, have always relied on jets in the final signature to reduce the backgrounds.

The analysis variable is Δt , defined as the difference between the measured

Current Flag Status

[Flags at full staff](#)

Wilson Hall Cafe

Thursday, July 25

- Breakfast: Canadian bacon, egg and cheese Texas toast
- Breakfast: corned-beef hash and eggs
- Grilled-chicken quesadilla
- Mediterranean-style ziti with asparagus
- Honey-baked ham
- Buffalo chicken tender wrap
- Grilled- or crispy-chicken salad
- Chef's choice soup
- White-chicken chili

[Wilson Hall Cafe menu](#)

Chez Leon

Friday, July 26 Dinner

- Cold spicy cucumber avocado soup
- Peruvian-style beef kabobs with grilled onions and zucchini
- Quinoa and grilled-pepper salad
- Lime tart with blueberry sauce

Wednesday, July 31 Lunch

- Antipasto salad
- Amaretto cheesecake

[Chez Leon menu](#)

Call x3524 to make your reservation.

Archives

[Fermilab Today](#)

[Director's Corner](#)

[Frontier Science Result](#)

Fitness classes:

Walk 2 Run

Thursdays, Aug. 22 to Oct. 24, 4:45-5:30 p.m.
Meet outside
Wilson Hall, east side

This free 10-week program can help you improve your fitness, reduce cholesterol and lose weight by gradually increasing your running potential.

Zumba Fitness

Tuesdays, Aug. 27 to Oct. 15, 11:45 a.m.-12:30 p.m.
Fitness Center Exercise Room
\$50/person

Zumba® classes feature exotic rhythms set to high-energy Latin and international beats. It's easy to do, effective and exhilarating.

Zumba Toning

Thursdays, Aug. 29 to Oct. 17, 11:45 a.m.-12:30 p.m.
Fitness Center Exercise Room
\$50/person

Learn how to enhance your rhythm and tone target zones, including arms, abs and thighs. Zumba® Toning can help you sculpt your body naturally while having a blast.

Wellness:

Weight Management Support Group

Thursday, Aug. 1, noon-1 p.m.

Walking meeting: Meet at AZero, take WH east-side exit over berm. In case of rain, meet in Wilson Hall Small Dining Room.

Employee Massage Day

Thursday, Aug. 15, 10 a.m.-1 p.m.
Small Dining Room

Sign up for your free 10-minute stress-relieving chair massage: Call Jeanne Ecker at x2548 or e-mail jecker@fnal.gov.



arrival time of the photon and the expected arrival time, assuming the photon travels unimpeded from the main interaction to the detector. New particles would show up as an excess of events in the signal region, which corresponds to Δt values from 2 to 7 nanoseconds.

After analyzing 6.3 inverse femtobarns of data, the analyzers found that the data (322 events) was in agreement with the Standard Model background prediction (286 ± 24 events), showing no evidence of delayed-photon production in the exclusive photon-plus-missing-energy final state. Because of the numerous new-physics models that can produce such a final state, a minimal-supersymmetric-Standard Model Higgs boson decaying into neutralinos being just one example, the findings of this analysis are presented purely as a model-independent signature-based search. With the last third of the Run II Tevatron data at CDF still to be analyzed, this never-before-investigated region still has the opportunity to yield something new and interesting. Stay tuned.

[Learn more](#)

—edited by Andy Beretvas



These CDF physicists, all from Texas A&M University when this analysis was performed, contributed to this result. From left: David Toback, Adam Aurisano (now at University of Cincinnati), Jason Nett, Vaikunth Thukral, Jonathan Asaadi (now at Syracuse University), Daniel Goldin (now at Science Systems and Applications Inc.) and Daniel Cruz (now at Intergraph Corporation).

Special Announcement

Batavia Road entrance closed July 30 - Aug. 1

The Batavia Road entrance to the laboratory will be closed beginning

Info

Fermilab Today is online at: www.fnal.gov/today/

Send comments and suggestions to: today@fnal.gov

Visit the Fermilab [home page](#)

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BuZheng Qigong & Tai Chi Easy (free)
Mondays and Fridays, June 24 to Aug. 30, noon-1 p.m.
Ramsey Auditorium

Wednesdays, June 26 to Aug. 28, 7-8 a.m.
Ramsey Auditorium

Employee discounts:
Don's Auto Ade Inc.
Chicago Fire tickets
Bristol Renaissance Faire
Six Flags Great America

For other discount information, visit the WDRS [Employee Discounts Web page](#).

For more information, contact Jeanne Ecker in the Wellness Office at x2548 or at jecker@fnal.gov.

In the News

Fermilab's giant magnet headed near Glen Ellyn today
From the *Daily Herald*, July 25, 2013

Searching for teeny-tiny particles that may exist for the briefest of times in a vacuum requires really big tools.

Shoppers and others at the Bolingbrook Costco gawked Wednesday at one, as a circular, 50-foot-wide electromagnet stopped there en route from a federal laboratory in New York to Fermi National Accelerator Laboratory in Batavia.

[Read more](#)

In the News

On the move
From Naperville Community Television, July 24, 2013

Onlookers watched as crews moved a 50-foot electromagnet down the street from Lemont to Bolingbrook.

The Muon g-2 has traveled 3,200 miles from Brookhaven National Laboratory in New York, through the Gulf of Mexico, up the Mississippi River, to finally land by barge in Lemont.

Tonight marked the first leg of a three-day transport of the electromagnet,

Tuesday, July 30, at 6 a.m. to accommodate repairs to the Canadian National Railroad track crossing. It will reopen on Friday, Aug. 2, at 6:30 a.m. Vehicles entering or exiting the site should use the Pine Street entrance during this time.

If weather conditions delay construction work, the entrance closure may be extended through Friday, Aug. 2. In this case, the entrance will reopen on Saturday, Aug. 3, at 6:30 a.m.

Announcements

Today's New Announcements
[Chicago Fire discount tickets](#)

[Benefits Office closed until July 26](#)

[NALWO tour to Garfield Farm - July 31](#)

[What's Your Financial IQ Challenge runs from July 1 - 31](#)

[July EAP webinar](#)

[C2ST presents The Physics of Baseball - Aug. 2](#)

[Fermilab Heartland Blood Drive - Aug. 12 and 13](#)

[UChicago Tuition Remission program deadline - Aug. 22](#)

[URA Visiting Scholars program deadline - Aug. 26](#)

[Puppet Fundamentals course offered in September](#)

[Poster contest for the CMS experiment](#)

[Same-sex couples now eligible for immigration benefits](#)

[Outdoor soccer at the Village](#)

[English country dancing at Kuhn Barn](#)

[Scottish country dancing meets Tuesday evenings in Auditorium](#)

[International folk dancing in Auditorium for summer](#)

[Fermilab discount at Don's Auto Ade Inc.](#)

[Bristol Renaissance Faire discount](#)

which will end at its new home at
Fermilab in Batavia.

[Read more](#)

[Submit an announcement](#)