

# The Village Courier

 national accelerator laboratory

Operated by Universities Research Association Inc.  
Under Contract with the United States Atomic Energy Commission

Vol. 4 No. 38

November 16, 1972

## PROTON AREA BEGINS STUDY OF HIGH ENERGY PROTONS

The scientific sleuths who observe the puzzling behavior of the subatomic particles in a proton beam are setting up some intricate equipment in NAL's Proton Area which they hope will soon take some of the mystery out of these remote aspects of physical matter. Seen from the air, the corridors of the Proton Area are a huge, gaping labyrinth -- rectangular pits typically 25 feet wide, 20 feet in depth, walled by massively-corrugated sheet steel pilings, woven into a where-does-it-end? pattern. Seen from the ground, the stark plainness of the structures and the intricate paths of the beam lines reveal that the people who are at work here are preparing for something unusual in the way of particle reactions.



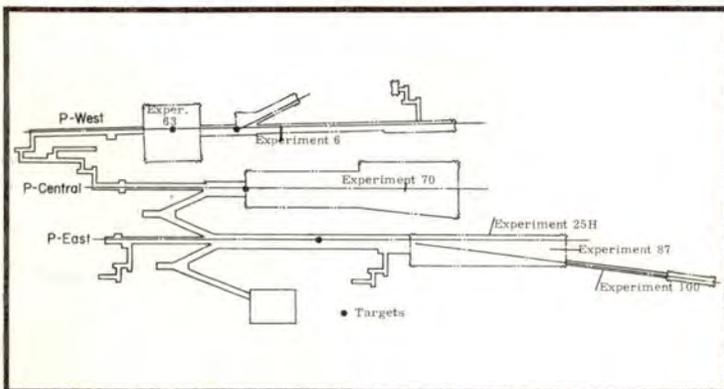
...The rugged structure of NAL's Proton Area...

On November 3, a beam of 200 BeV protons was steered out of the main accelerator, through the switchyard, and cleanly down the proton experimental line which is the east-most line of the three-pronged external experimental switchyard. Focussing on a tungsten target 1/8" in diameter, that first beam was seen in the P-Central area. Within 50 feet on either side are P-West and P-East, the other two places where experimental work will be carried on.

In addition to bringing the line into operation, the event also represented the complete activation of the NAL experimental areas -- the Meson and Neutrino lines having previously come on the air in the past few months.

The reason for the careful plotting of the Proton Area design is two-fold -- to accommodate requirements of the particular kind of experiments that will go on there and to retain a great deal of flexibility so that re-arrangements of the accommodations can be accomplished easily, allowing other experiments to move in quickly when the current ones have finished. The pits which contain the experimental equipment are covered with hatched, removable roofs. New

(Continued on Page 2)



...Layout of the NAL Proton Area showing location of the first six experiments to be performed there...



...Construction of the P-Central experimental pit. Light-colored box at rear center contains target box...

## PROTON AREA (Continued)

experiments will add to or change these pits. A service building, which also contains the access shaft to the labyrinths, is located above the ground.

In the Proton Area, experimenters will study the collisions on targets of protons which come directly from the accelerator -- in contrast to the other NAL experimental areas which study secondary beams -- that is, beams of particles which are first produced from collisions on targets in the particular area, then transported for study. Experiment Number 70, for instance, has already begun in the Proton Area. It is a collaboration of Columbia University, Rockefeller University, and NAL experimenters to be carried out in three phases -- measurements of the production of (1) gamma rays; (2) electrons, and (3) pairs of electrons and positrons. The numbers of these particles produced as the proton beam strikes targets and the energies carried off by the new particles will be measured at a variety of angles. Data will be closely scrutinized for possible existence of exotic new particles suggested in recent years, such as the W "intermediate weak boson" or B<sup>0</sup> "heavy photon." Five other experiments are to be housed in the Proton Area in this first wave of experimenting there, all searching for new phenomena.

Physicist Lincoln Read has directed the development of the Proton Area in the last several months. Many of the conceptual ideas for the design originated with Al Maschke. "The backbone of our effort has been the determined work of a small group of people who have been working on this project since last February," according to Dr. Read. "This includes Ron Currier, Dave Eartly, Dean Lee, Alice Lengvenis, Bob Scherr and Ed Tilles. During the intervening months, many others have entered the fray -- Jesse Guerra, Al Guthke, Bettie Howe, Frank Juravic, Del Hoffman, Ed LaVallie, Tom Nash, Lou Nouzak of Technical Services, Stan Orr, John Peoples, Bob Shovan, Larry Tate, and Aage Visser.

"They have all contributed enthusiastically toward getting Proton Central operational. Everyone is now working very hard toward achieving a second important milestone in the Proton Area -- the start of beam operations in Proton East, which we hope to achieve in December. Early next year, Experiment Number 100 (in Proton East), which is being done by physicists from Princeton University and the University of Chicago, can then begin.

"The people in the Proton Section are only partly responsible for the fact that the Proton Area is now coming into operation for experiments," Read said. "Our appreciation goes to all the other groups at NAL and DUSAF whose help and cooperation has been enormously important."

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## WORKING IN THE PROTON SECTION



...Ed Tilles (L), Lincoln Read...



...A. Guthke (L), Frank Juravic, and John Peoples...



...(L-R) Stan Orr, Larry Tate, Bob Scherr, J. Guerra...

Photos by Tim Fielding, NAL

### MARK YOUR HOLIDAY CALENDAR

Sunday, December 10 - NAL Children's Christmas Party: Last names "A to M" -- 2-3 p.m., "N to Z" -- 3-4 p.m. Ages 2 through 10....Light refreshments...NO CHARGE

Sunday, December 17 - NAL Christmas Dance: St. Andrew's Country Club, West Chicago, 6:30 p.m. Tickets are now available from NALREC representatives at \$5.00 per person.

### A NOUS LA LIBERTE - 1931 FRENCH FILM

presented by

NAL INTERNATIONAL FILM SOCIETY

Friday - November 17, 1972

Village Barn - 8 p.m.

Adults - \$1.00

Children 12 and under - 50¢

## ASCE AWARD PRESENTED

One of the three achievement awards in the national competition for 1972 sponsored by the American Society of Civil Engineers was awarded to NAL at a dinner in Chicago on Thursday, November 2. The Award of Merit in the Outstanding Civil Engineering Achievement for 1972 was presented by Charles W. Yoder, National president-elect of the ASCE to NAL Deputy Director Edwin L. Goldwasser. Dr. Goldwasser paid tribute to the DUSAF firms which have performed many of the architectural and engineering services which led to the award. "We have insisted that our structures perform better than their specifications and that they be esthetically pleasing," he said. "All of this they have accomplished and always with understanding and good humor. Our thanks go to the ASCE for recognizing this work and to DUSAF and the contractors for performing it. Our special gratitude goes to William Alexander, Project Director of DUSAF and Parke Rohrer, Project Manager, for the magnificent job they have done."

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## AREA ARTIFACTS HERE NEXT WEEK

On Wednesday, November 22, Mr. August Mier of Batavia will bring to NAL his remarkable collection of arrowheads found on the NAL site. Since the early 1900's Mr. Mier has walked and studied the ground of this area. Recently he finished mounting several hundred of the beautiful artifacts he has found in over sixty-five years of searching. He will bring them to NAL to be photographed as a permanent part of NAL's archeological background.

Mr. Mier has agreed to display the collection in the Village Cafeteria beginning at 11:30 a.m. on Wednesday, November 22nd. Employees and other interested persons are invited to view the collection and to talk with Mr. Mier at that time.

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## 8th DEFENSIVE DRIVING CLASS NOW IN SESSION

Fifteen employees recently began the 8th Defensive Driving class to be given by NAL's Safety Department. Defensive driving is driving to prevent accidents, in spite of the incorrect actions of others and possible adverse conditions. Using a workbook and films prepared by the National Safety Council, the 8-part course aims to be "an unsettling experience -- one that will cause you to re-examine your driving behavior and your preconceptions about how to handle driving emergencies." Ed Brezina, NAL Safety Inspector, pointed out to the class that "a preventable accident is one in which you failed to do everything you reasonably could have done to prevent it...It's not who's to blame, but could it have been prevented."

The course offers many tips for forming new, good driving habits such as the two-second rule for distance between cars as well as a provocative "Be Your Own Traffic Judge" series.



...Ed Brezina teaches defensive driving...

In 1971 property damage from motor vehicle accidents in the U.S. amounted to \$5 billion. Causes of traffic accidents are known to be 85% driver errors, so that \$4.25 billion of this enormous expenditure could have been modified by correcting driver mistakes. "Every driver has a legal and moral obligation to know the rules and regulations," the course teaches. Graduates of the course report that the self-analysis inherent in the course gives long-time drivers particularly a new awareness of good driving techniques. The next session of Defensive Driving at NAL will be held at the Cross Gallery, Central Laboratory area. Anyone wishing to take advantage of this training should call Ed Brezina at Ext. 3580.



...Enjoying the Award of Merit plaque presented to NAL by the ASCE are, (L to R): B. Lemon, D. Moll, M. Warner (all of DUSAF), E.L. Goldwasser, Capt. B. Bennett (URA), F.E. Mattmueller (AEC), H. Hinterberger (NAL), W. Alexander (DUSAF), A. Mravca (AEC), P. Rohrer and E. Major (DUSAF)...

Photos by Tony Frelo, NAL

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## NAL GOOD SAMARITAN

Ted Shaw of NAL's Magnet Facility not long ago had a chance to demonstrate that some people really do care what happens to others. It happened on Butterfield Road just off Eola Road, on Shaw's way home from work. He saw a '72 Buick Skylark with the hood up, the driver trying to start the car, with no luck because the spark plugs were soaked from a leak in a radiator hose. Shaw pulled off the road to help, found he could tape the hose and dry out the distributor for Mr. Birch J. Doran, Chief of the Air Transportation Security of the Federal Aviation Administration. The car started; Shaw found a little water to fill the radiator, and the two men headed for a garage in Batavia.

Mr. Doran expressed his appreciation in a letter he wrote the next day to NAL's Director, Robert R. Wilson. "I had an experience...that reaffirmed my conviction that most young people are great," Mr. Doran told Dr. Wilson. "Mr. Shaw is an outstanding representative of your organization."



...Ted Shaw...

Ted does a lot of driving. "When I've needed help on the road, I've sure wished someone would give me a hand. I was glad to help Mr. Doran. Helping people comes naturally in my family; my mother taught us how to respect other people," says NAL's good neighbor, Ted Shaw.

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## IT'S HOCKEY SEASON AGAIN

The first trip of the season will be on Wednesday, November 29 to see the Chicago Blackhawks vs Detroit Red Wings. A bus will leave from Shakey's Pizza Parlor, 110 Lake Street, Aurora, at 6:00 p.m. SHARP, and return about 11:00 p.m. Pizza, beer and soft drinks will be served on the bus. The price of \$11.50 per person includes ticket, transportation, refreshments.

For further information or to make your reservation, contact Peaches, Ext. 3470 or 3479.

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SUGGESTED READING FOR NAL FOLLOWERS...The October, 1972 issue of the CERN COURIER containing a detailed report on material reported at the XVI International Conference on High Energy Physics at NAL-Univ. Chicago in September....October 28 issue of SCIENCE NEWS containing a reproduction of one of the first tracks of NAL's 30-inch Bubble Chamber on its bright blue cover, and a story by Dietrick Thomsen on Bubble Chamber activities.

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There will be no issue of THE VILLAGE CRIER on Thursday, November 23 because of the Thanksgiving holiday. Best wishes to all NAL, DUSAF and AEC families for a pleasant holiday weekend!!!

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## CLASSIFIED ADS

DONATIONS - NAL's playgroup welcomes new or used books, toys, crafts material, playground equip., trading stamps, etc. Call Donovan Ljung, 231-8513 or 231-7663.

FOR SALE - 23" RCA Color TV. Beautiful cab., excel. cond. (serviced by RCA service contract; new 7½' Nova-Scotia Balsam Christmas Tree. Call Edward Brezina, Ext. 3763 or 323-0794.

FOR SALE - Family Christmas gift - Amerigo Snap-out Camper on Ford p/u Camper special. Self contained, sleeps six - \$2200. Call A. Streccius, Ext. 3771.

FOR SALE - 1966 Rambler, 6/stick, 5 new tires. No beauty, just cheap trans., \$350 firm. Call Fred Browning, Ext. 3236.

TO GIVE - New '62 Rambler parts free. Bob Flora, Ext. 3701.

FOR SALE - Pirelli radial tires-14"-5 tires, 3 wheels. Like new, \$100. Call Dick Figlik, Ext. 3287 or 365-9102.

FOR SALE - 1971 Datsun 1200 Fastback. 30/40 mpg., 22,000 mi. \$1514.35. Call John Ingebretsen, Ext. 3511 or 964-6988.

FOR SALE - Handmade necklaces & chokers. Excel. Xmas gifts. Many styles. Call Leonard Brown, 232-2092 or Ext. 3719.

FOR RENT - 2 Bedrm. apt. w/pool, etc. \$215 mo. with one month free. West Chgo. Call Theodore Soszynski, Ext. 3729 or 231-6143 evenings.

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The Village Crier is published by the Public Information Office of the National Accelerator Laboratory. Margaret M.E. Pearson, Editor. Correspondence may be directed to the address below. Telephone number of the Laboratory is 312-840-3000

National Accelerator Laboratory  
P.O. Box 500  
Batavia, Illinois 60510

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