

NAL PROPOSAL No. 237

Scientific Spokesman:

J. J. Lord
Department of Physics
University of Washington
Seattle, Washington 98105

FTS/Comm: 206 - 543-2777 or 2770

EMULSION EXPOSURE TO 300 GeV PROTONS

J. J. Lord

August 14, 1973

Dept. of Physics
University of Washington
Seattle, Wa. 98105

EMULSION EXPOSURE TO 300 GeV PROTONS

Proposed Continuation and Extension at 300 GeV

Scientific Spokesman: J. J. Lord, Dept. of Physics
Telephone: 206 543-2777
543-2770

1. The first phase of our experiment #171 was carried out at 200 GeV in Sept. 1972. The purpose of the experiment was the search for new short-lived particles produced in nuclear collisions in emulsion.
2. We would like to extend our search for short-lived particles to 300 GeV in case there is a higher threshold energy for their production.
3. A side-line found during the 200 GeV experiment was the study of intranuclear cascades in proton-tungsten nuclear collisions. We would like to extend this to collisions with other nuclei from $Z = 5$ to $Z = 90$ in order to compare with the Independent Particle Model and the Coherent Particle Model theories of J.S. Trefil. A portion of this experiment could be carried out at energies of either or both 200 GeV and 300 GeV.
4. The experiment can be carried out with 6 separate packets of plates each 2"x6" and 10" long.
5. An exposure of about 75,000 to 200,000 protons per square centimeter would be needed.

J. J. Lord

J. J. Lord

August 14, 1973