

The SELEX (Fermilab E781) Collaboration

G.P. Thomas

Ball State University, Muncie, IN 47306, U.S.A.

E. Gülmez

Bogazici University, Bebek 80815 Istanbul, Turkey

R. Edelstein, S.Y. Jun, A.I. Kulyavtsev¹, A. Kushnirenko²,
D. Mao³, P. Mathew⁴, M. Mattson, M. Procaro⁵, J. Russ, J. You¹
Carnegie-Mellon University, Pittsburgh, PA 15213, U.S.A.

A.M.F. Endler

Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil

P.S. Cooper, J. Kilmer, S. Kwan, J. Lach, E. Ramberg, D. Skow,
L. Stutte

Fermi National Accelerator Laboratory, Batavia, IL 60510, U.S.A.

V.P. Kubarovsky, V.F. Kurshetsov, A.P. Kozhevnikov,
L.G. Landsberg, V.V. Molchanov, S.B. Nurushev, S.V. Petrenko,
A.N. Vasiliev, D.V. Vavilov, V.A. Victorov
Institute for High Energy Physics, Protvino, Russia

Li Yunshan, Mao Chensheng, Zhao Wenheng, He Kangling,
Zheng Shuchen, Mao Zhenlin
Institute of High Energy Physics, Beijing, P.R. China

M.Y. Balatz⁶, G.V. Davidenko, A.G. Dolgolenko,
G.B. Dzyubenko, A.V. Evdokimov, M.A. Kubantsev, I. Larin,
V. Matveev, A.P. Nilov, V.A. Prutskoi, A.I. Sitnikov,
V.S. Verebryusov, V.E. Vishnyakov
Institute of Theoretical and Experimental Physics, Moscow,
Russia

U. Dersch⁷, I. Eschrich⁸, I. Konorov⁹, H. Krüger¹⁰, J. Simon¹¹,
K. Vorwalter¹²
Max-Planck-Institut für Kernphysik, 69117 Heidelberg, Germany

I.S. Filimonov⁶, E.M. Leikin, A.V. Nemitkin, V.I. Rud
Moscow State University, Moscow, Russia

A.G. Atamantchouk⁶, G. Alkhazov, N.F. Bondar, V.L. Golovtsov,
V.T. Kim, L.M. Kochenda, A.G. Krivshich, N.P. Kuropatkin¹,
V.P. Maleev, P.V. Neoustroev, B.V. Razmyslovich¹³,
V. Stepanov¹³, M. Svoiski¹³, N.K. Terentyev¹⁴, L.N. Uvarov,
A.A. Vorobyov

Petersburg Nuclear Physics Institute, St. Petersburg, Russia

I. Giller, M.A. Moinester, A. Ocherashvili¹⁵, V. Steiner
Tel Aviv University, 69978 Ramat Aviv, Israel

J. Amaro-Reyes, A. Blanco C., J. Engelfried¹, A. Morelos,
I. Torres, E. Vázquez-Jáuregui
Universidad Autónoma de San Luis Potosí, San Luis Potosí,
Mexico

M. Luksys

Universidade Federal da Paraíba, Paraíba, Brazil

V.J. Smith

University of Bristol, Bristol BS8 1TL, United Kingdom

U. Akgun, A.S. Ayan, M. Kaya¹⁶, E. McCliment, K.D. Nelson¹⁷,
C. Newsom, Y. Onel, E. Ozel, S. Ozkorucuklu¹⁸, P. Pogodin
University of Iowa, Iowa City, IA 52242, U.S.A.

L.J. Dauwe

University of Michigan-Flint, Flint, MI 48502, U.S.A.

M. Gaspero, M. Iori

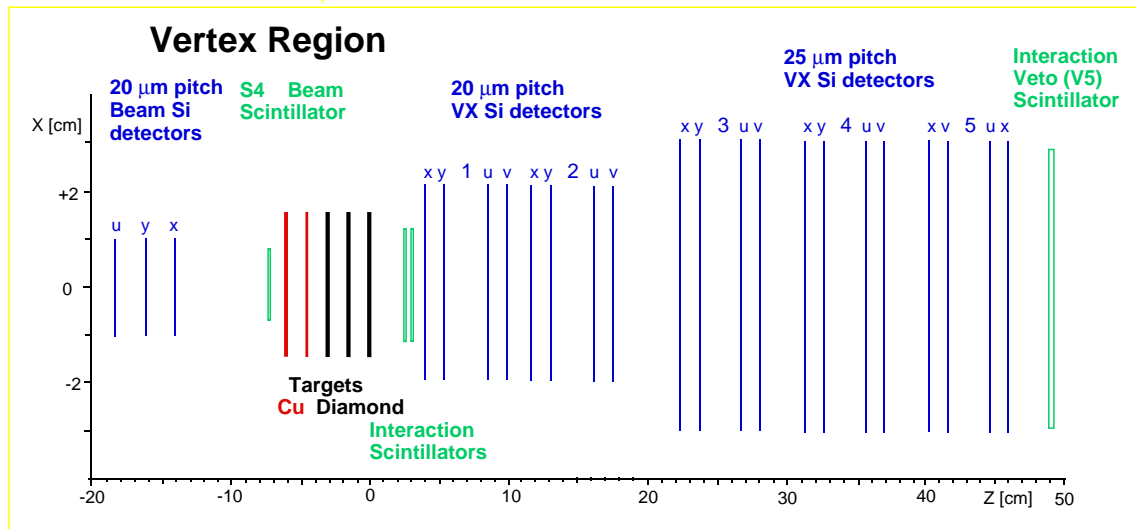
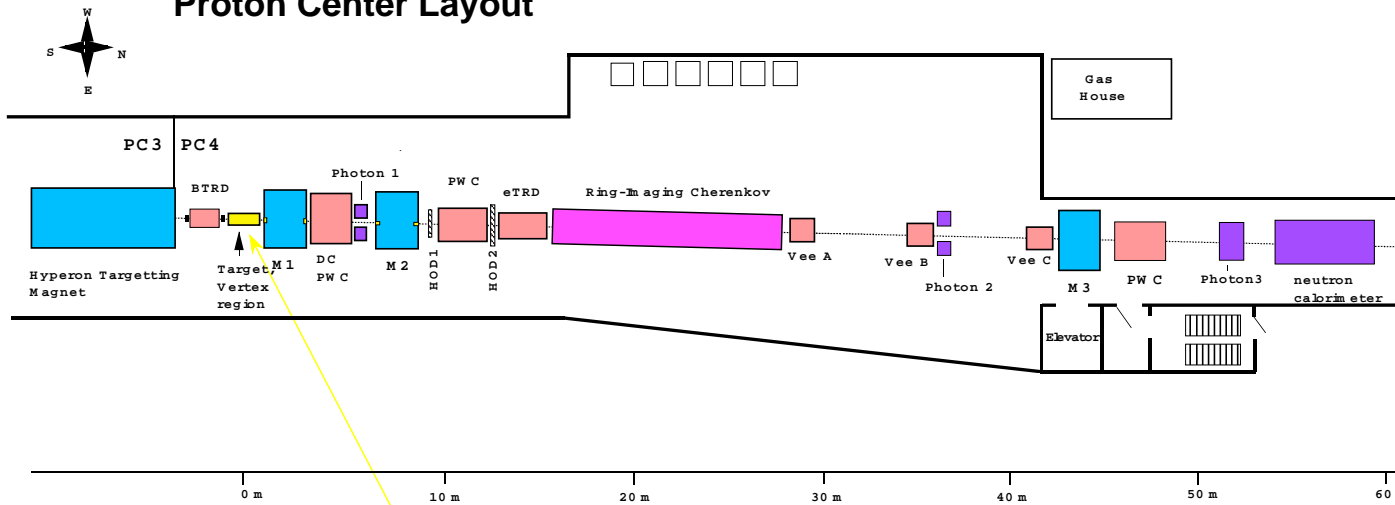
University of Rome “La Sapienza” and INFN, Rome, Italy

L. Emediato, C.O. Escobar¹⁹, F.G. Garcia¹, P. Gouffon,
T. Lungov, M. Srivastava, R. Zukanovich-Funchal
University of São Paulo, São Paulo, Brazil

A. Lamberto, A. Penzo, G.F. Rappazzo, P. Schiavon
University of Trieste and INFN, Trieste, Italy

The SELEX Experiment at Fermilab

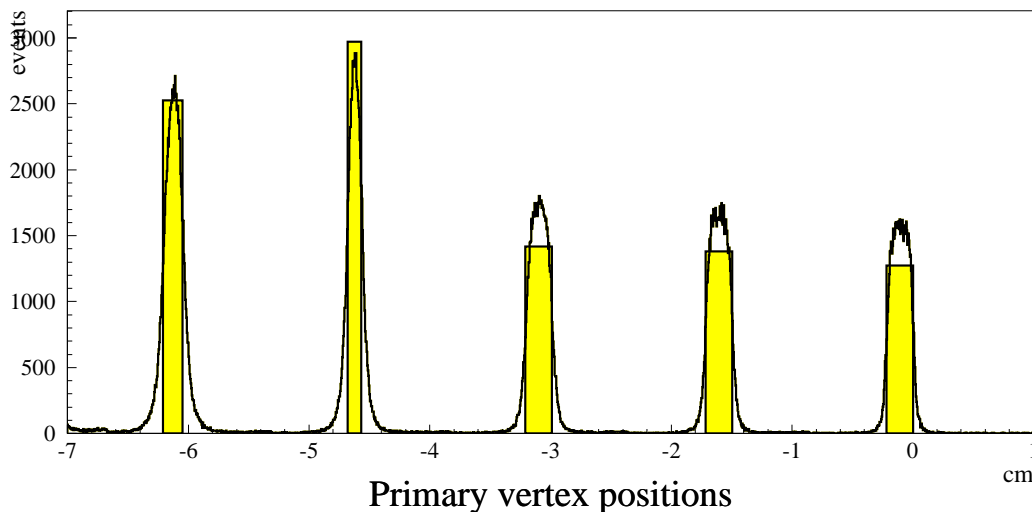
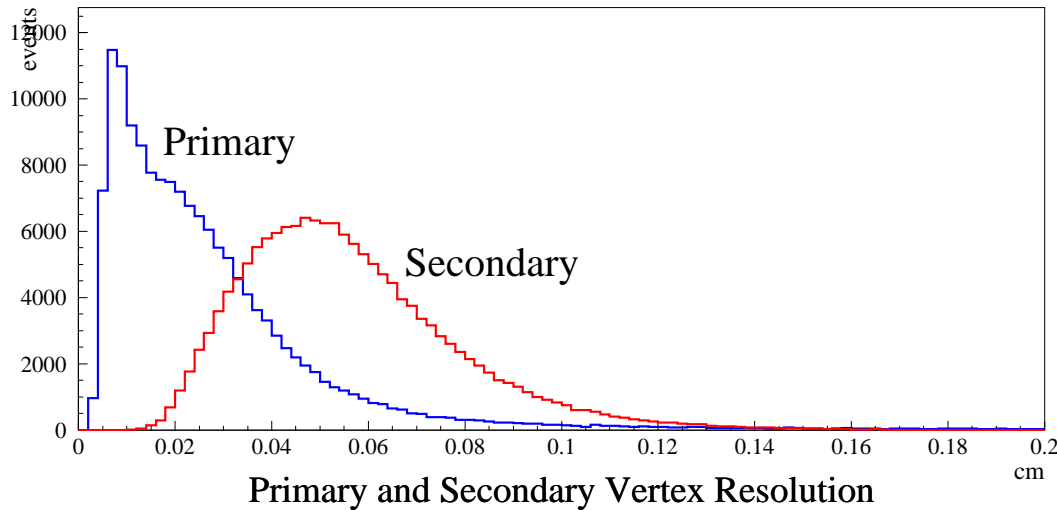
Selex (E781)
Proton Center Layout



SELEX experiment

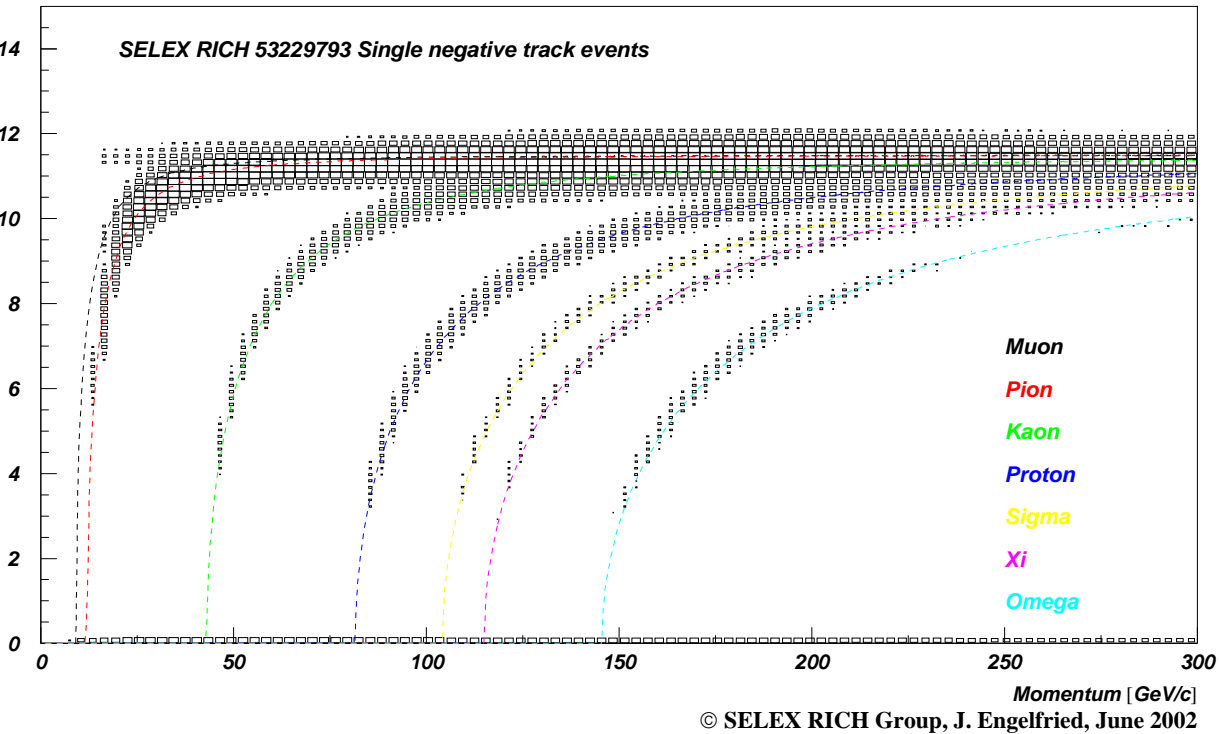
- Forward ($x_F > 0.1$) charm production
- Σ^- , π , p beam at 600 GeV/c
- RICH PID above ~ 22 GeV/c
- 20 plane Si-Vertex.
- Data taken 1996/7

Vertex Spectrometer Performance



- transverse vtx resolution 8 – 15 μm
- 20 highly-efficient vertex planes over-determine tracks, reduce tracking confusion in high-multiplicity events
- target foils 0.8-2.2 mm thick with 1.5 cm spacing to localize primary interaction
- Lifetime resolution ~ 20 fs (slightly depending on particle and decay mode)

Ring Imaging Cherenkov Counter Performance



© SELEX RICH Group, J. Engelfried, June 2002

