



# DØ Fact Sheet

DØ is one of two large particle physics experiments at Fermilab's Tevatron proton-antiproton collider. Its dimensions are 30 x 30 x 50' and it weighs about 5,000 tons.

The DØ collaboration began in 1983. Construction was completed in February 1992 and DØ took data from 1992 – 1996. The experiment was upgraded from 1996 – 2001 and ran from 2001 until the Tevatron ceased operations in 2011, Physics analyses with the data continue.

## Scientific Accomplishments

About 470 papers & 500 Ph.D. theses to date  
Discovery of the top quark and measurement

of its properties

Evidence for Higgs boson production

Precision measurement of W boson mass

Observation of vector boson pair production

Measurement of the oscillation frequency of neutral Bs mesons

Anomalous di-muon production asymmetry

Strong interaction production of jets, vector bosons and bosons to test QCD

Numerous searches for new phenomena

## Trivia

DØ event displays shown in Keanu Reeves movie "Chain Reaction"

Fictional physicist Larry Fleinhart joined "DØ team" on TV show NUMB3RS.

DØ detector is now open as an exhibit for public tours.

Forward Preshower detector on display at NY Museum of Modern Art

## Current spokespersons

Dmitri Denisov (Fermilab) & Paul Grannis (Stony Brook University)

## Technical Highlights

Inner silicon detector, 700,000 channels

Scintillating fiber tracker & preshower, 100,000 channels

Uranium/liquid argon calorimeter, 50,000 channels

Muon system (wire chambers and scintillator), 70,000 channels

## Personnel

380 scientists equally split between US and non-US.

68 institutions

15 countries

## Data Facts

Inspect 20 million collisions/second

Record 200 events/second

Data flow of 20 Megabytes/second

1 Petabyte of data recorded/year

10 billion events stored for analyses

10 Petabytes of total disk storage