40 Years - Statistics Research

A Personal Perspective

Edward J. Wegman

Perspective

- Academic
- Government funded research
- Jealously of the Bell Labs crowd
  - Teaching
  - Research Proposals
  - Deans

A Time Line

1965 Mathematical Statistics Revered - Annals of Mathematical Statistics

1968 Wegman to UNC, Chapel Hill

1969 Mansfield Amendment - Applied Research

1970 - 1978 Decline in government funded research

1978 Carter era - economic competitiveness - good for research

- Wegman to ONR
- Computational Statistics – PAMRAN
- Large scale data sets - Data Viz at ONR

1980 Reagan era - military buildup

- Campaign against the bureaucracy
- Focused programs - sunset rules

1980 Funding at Stanford

Jerry Friedman – ORION 1 – precursor to SUN workstations

Funding at Harvard

Peter Huber – David Donoho

1981 SUN workstations, Apollo workstations, 68000, PCs

Large data sets, high dimensional data

1983 March – Pres. Reagan announces Star Wars

1984 Macintoshes, Parallel Coordinates

MacSpin

March – Star Wars program formally announced

10 Million no 100 Million lines of error-free code

1985 Grand Tour paper

1986 Parallel coordinates paper rejected – a Bell Labs referee

Contraction of DoD research begins - $5.8M at ONR

Wegman to GMU – can't hold a job?

1987 Interface incorporated in August

April 1988, Interface 88 held under auspices of the corporation

1989 AFOSR stops funding statistical research in favor of wavelets

Told they will only fund well-known statisticians

1989 ASA Sesquicentennial – Talk with John Chambers, Rick Becker

Toshiba T5100

1990 Parallel coordinates finally published

1991 Install immersive environment at GMU – Crystal Eyes – Power Wall?

Stereoscopic displays

ExplorN

1992- 2000 Dan Carr's Micromaps, CC-Maps

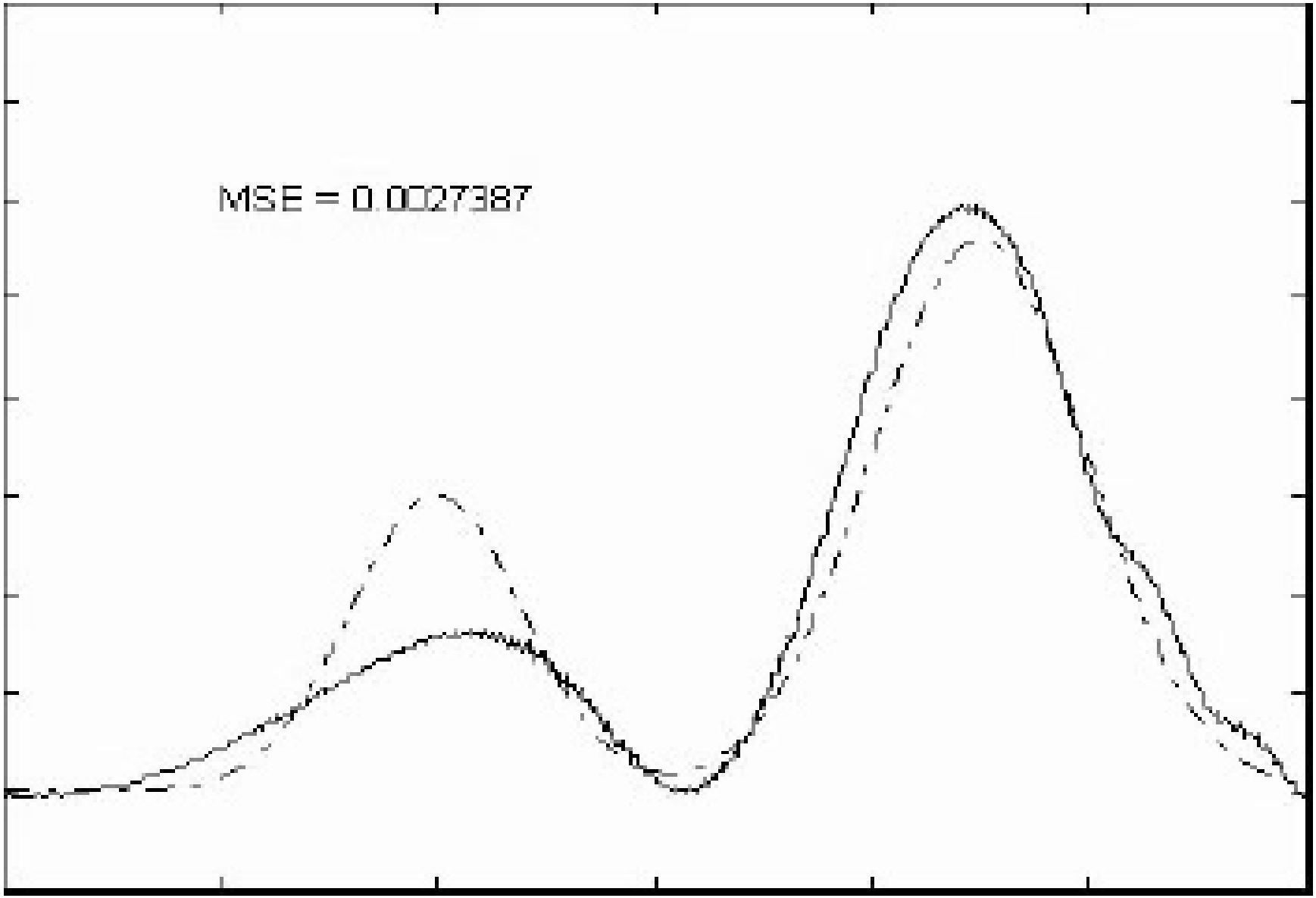
1996 Saturation Brushing

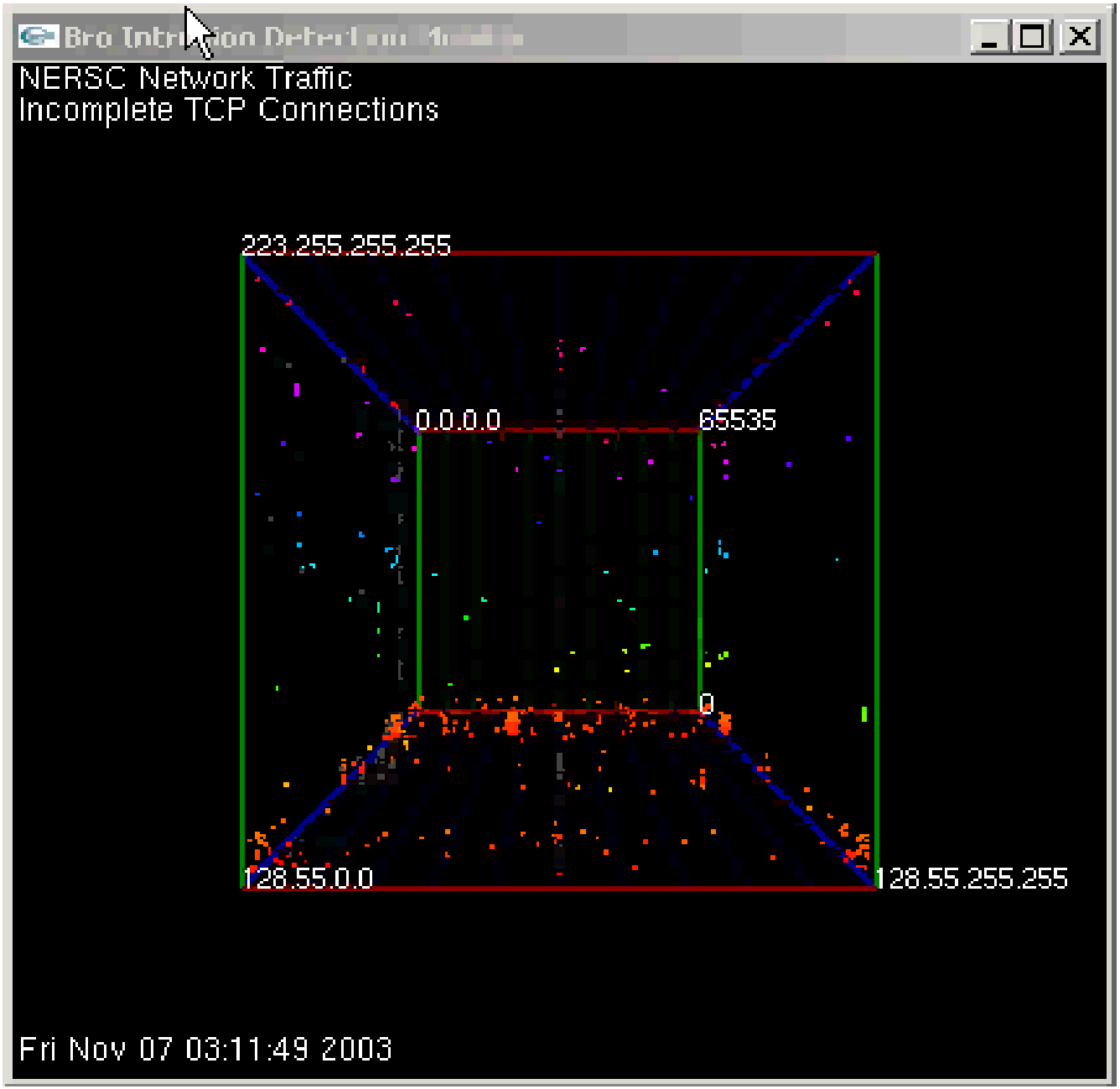
1995 National Academy Workshop on Massive Data Sets

1996 Pixel Tours
1996 – 2000 Focus on Virtual Reality data viz – Di Cook, Juergen Symanzik, and others

1999 CrystalVision

2002 National Academy Workshop on Streaming Data – Evolutionary Graphics


MSE = 0.0027387


Bro Intrusion Detection
NERSC Network Traffic
Incomplete TCP Connections
223.255.255.255
0.0.0.0
65535
0
128.55.0.0
128.55.255.255
Fri Nov 07 03:11:49 2003

2003 ONR abolishes Statistics and Probability Program

Decision Support Program

ARO Statistics Program down to $800,000

2005 John Chambers “retires,” Wegman invited to Bell Labs to talk

2006 NAS Committee on Applied and Theoretical Statistics ->

Committee on Data, Informatics, and Statistics

NAS Board of Mathematical Sciences and Applications

80% of their portfolio involves stochastic data

Conclusions

Best of times and the worst of times …

Basic research support in statistics by federal government (and industry?) severely eroded,

but statistics … data … is everywhere.

Where is some action?

- Social network modeling – homeland security
- Streaming data
- Text and Image data mining