

SGMA Bat/Ball Performance Research

ASA Field Test Analysis
&
Other Lab Tests

ASA Softball Field Test

- Conducted June 22, 2002 Charlotte, NC
- Thanks to:
 - ASA Equipment Testing & Certification Committee
 - Tony Laws
 - City of Burlingame Parks & Rec
 - Dr. Lloyd Smith
 - Dr. Alan Nathan
 - SGMA Participants

Test Matrices

Ball COR & Double Wall Bat

41/360; 44/344; 47/373

Ball Compression & Double Wall Bat

47/114, 47/373; 47/512

Bat Design vs Ball Compressions Above

Single Wall Aluminum & Composite

Bat Data

Design	Length	Wt	MOI
DbI Wall	34	26.42	8742
DbI Wall	34	27.78	9489
DbI Wall	34	29.51	10071
Composite	34	26.61	8526
Composite	34	27.90	8799
Composite	34	30.62	9885
AI Single Wall	34	27.72	9749

Players

22 Players

≈ A Skill Level

776 Hits Recorded

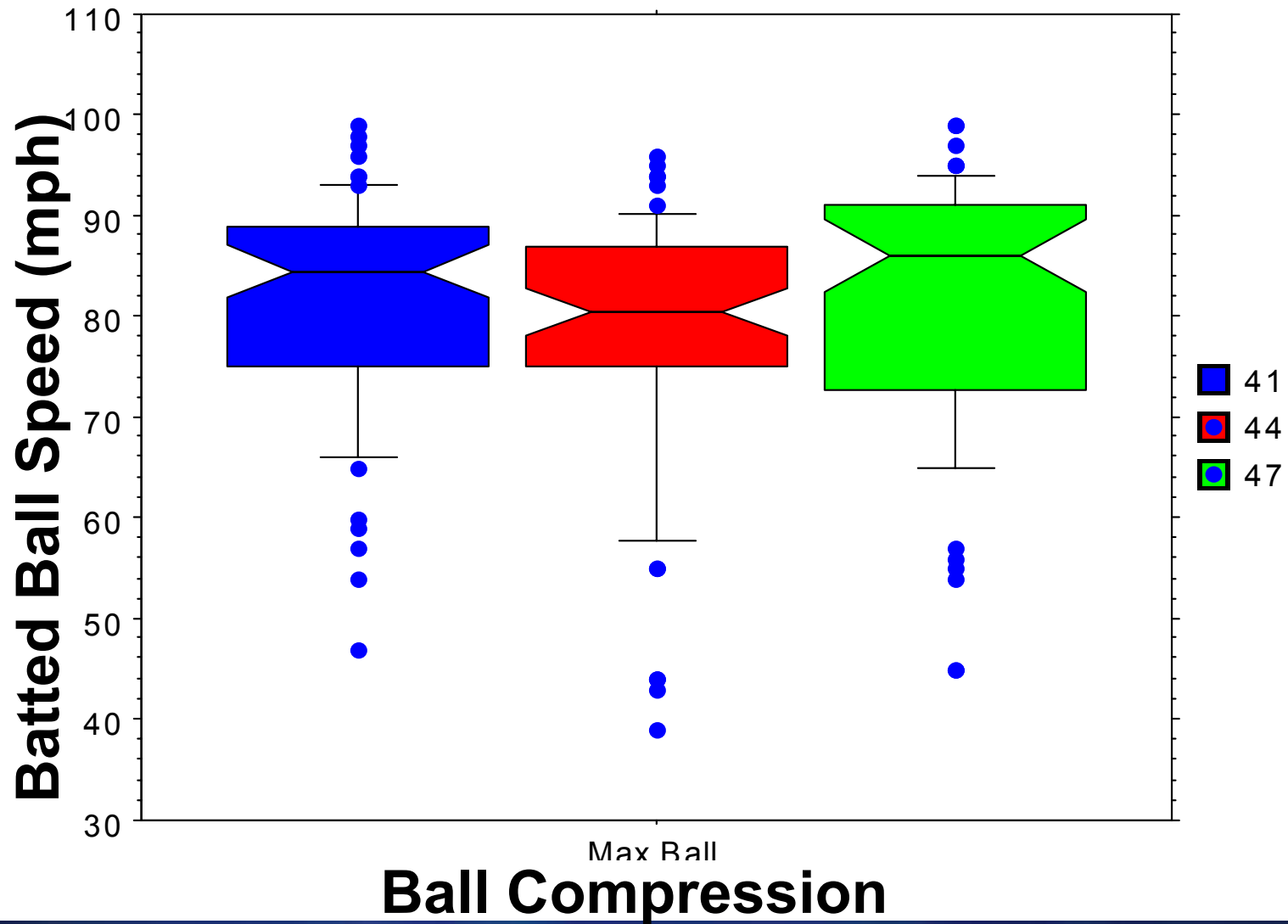
Some Players did 2 rounds of tests

No significant fatigue noted

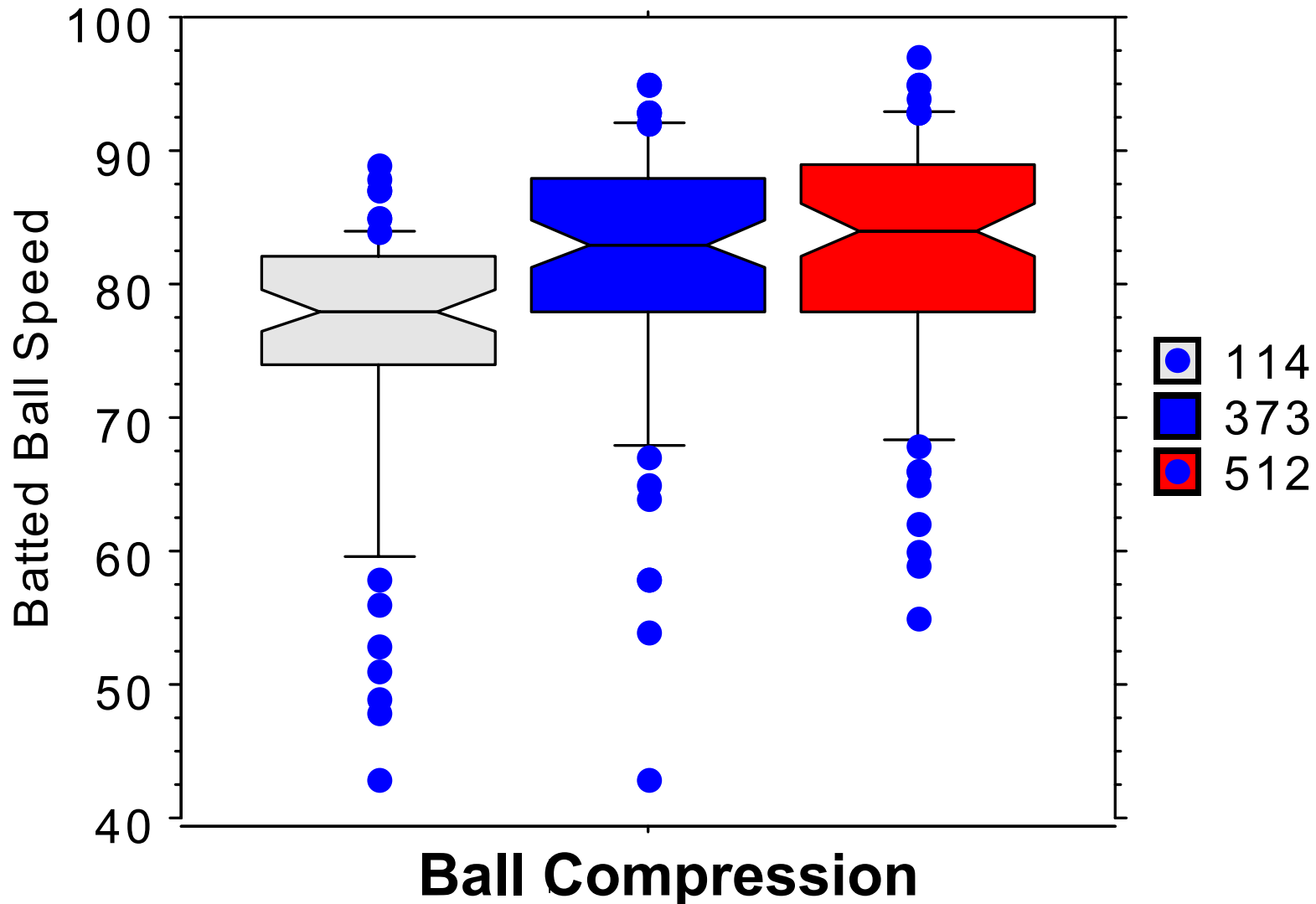
Test Measurements

- Batted Ball Speed 3 Radars
 - 2 Outfield
 - 1 Home plate
- Bat Swing Speed (6" from end of bat)
 - Light Trap
 - Reflective tape 6" from end of bat
- Batted Ball Distance

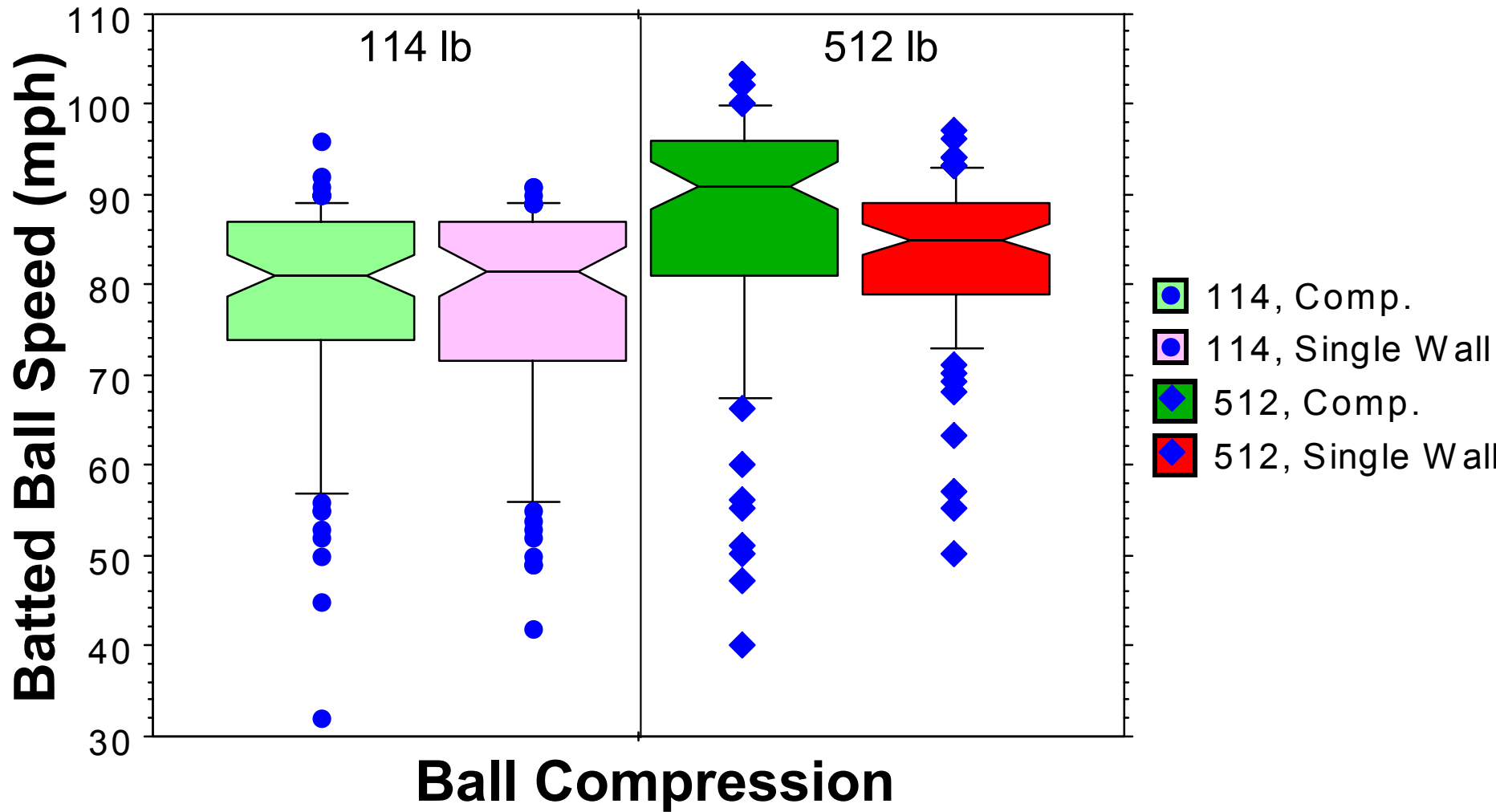
Ball COR



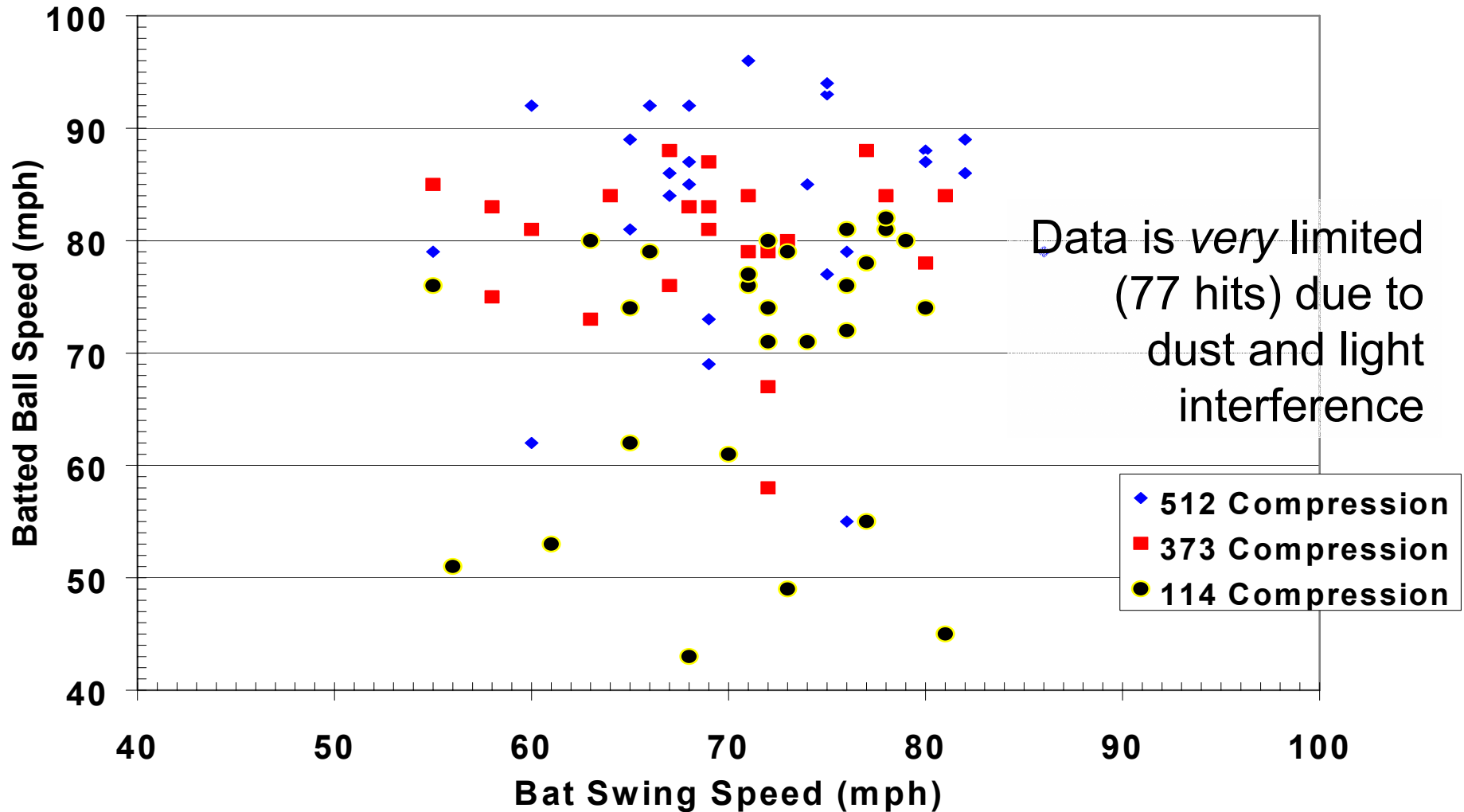
Ball Compression vs. BBS



Ball Compression vs Bat



Bat Swing Speed vs Actual BBS (.47 COR)



Laboratory Tests

Player Hitting Ball Off a Tee

Robotic Baseball Tests

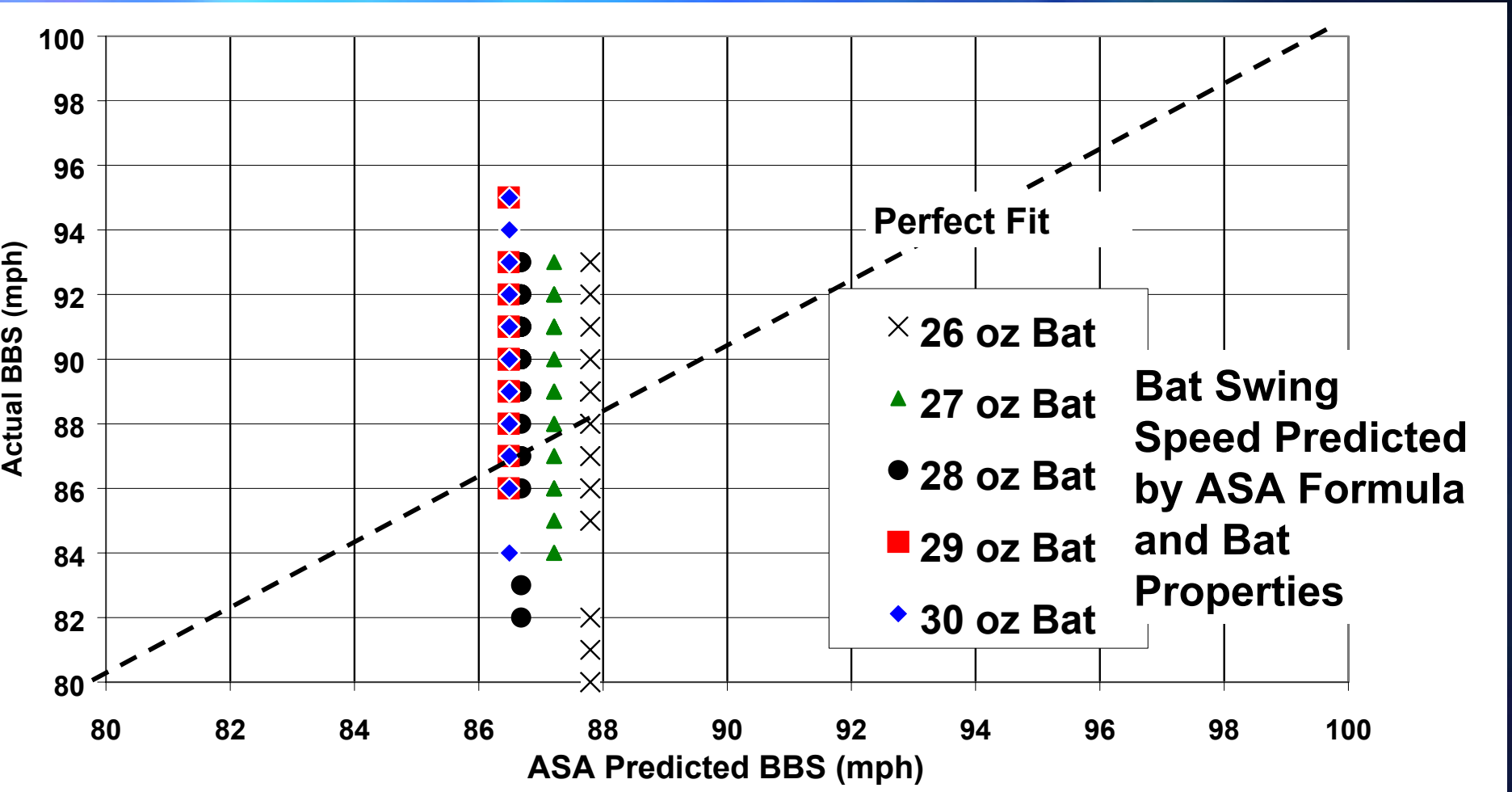
Player Softball Tee Test

October 12, 2002

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Bat Swing Speed 2, Actual vs. Predicted

Player in Lab, Off a Tee

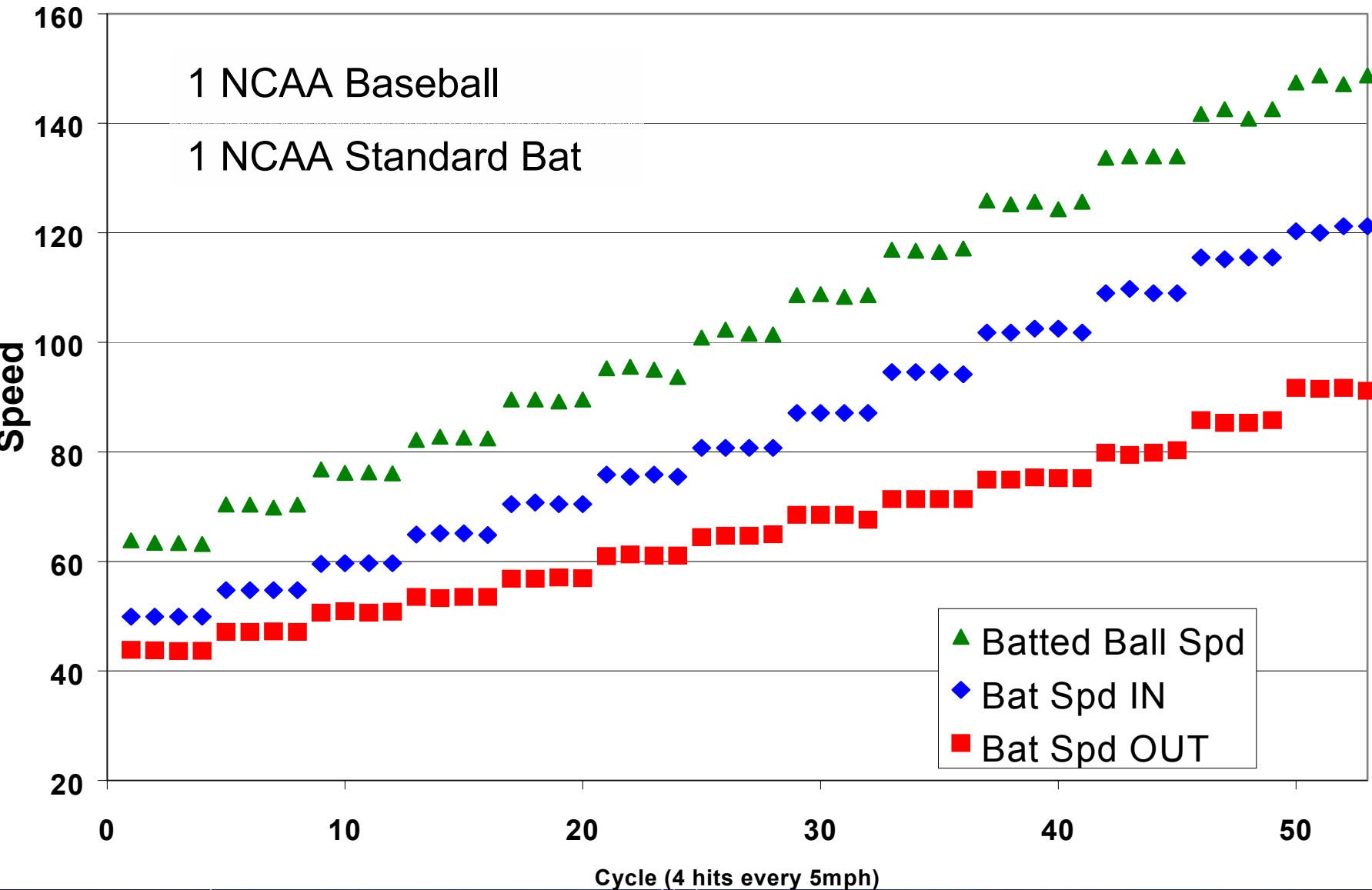


Robotic Baseball Tests

October 12, 2002

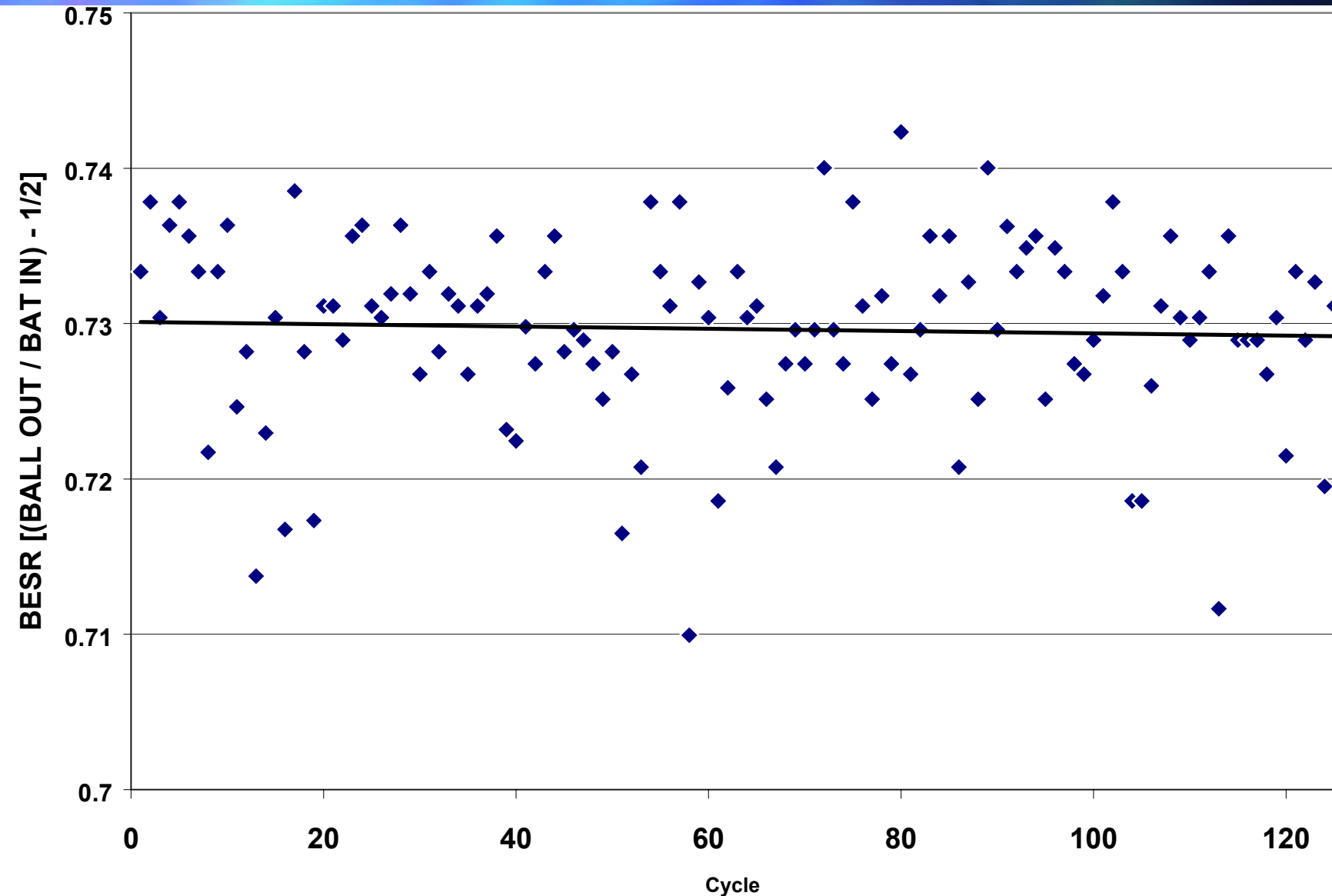
Chicago, O'Hare Hilton

Baseball Bat Robotic Test (Bat In, Ball Out, Bat Out)



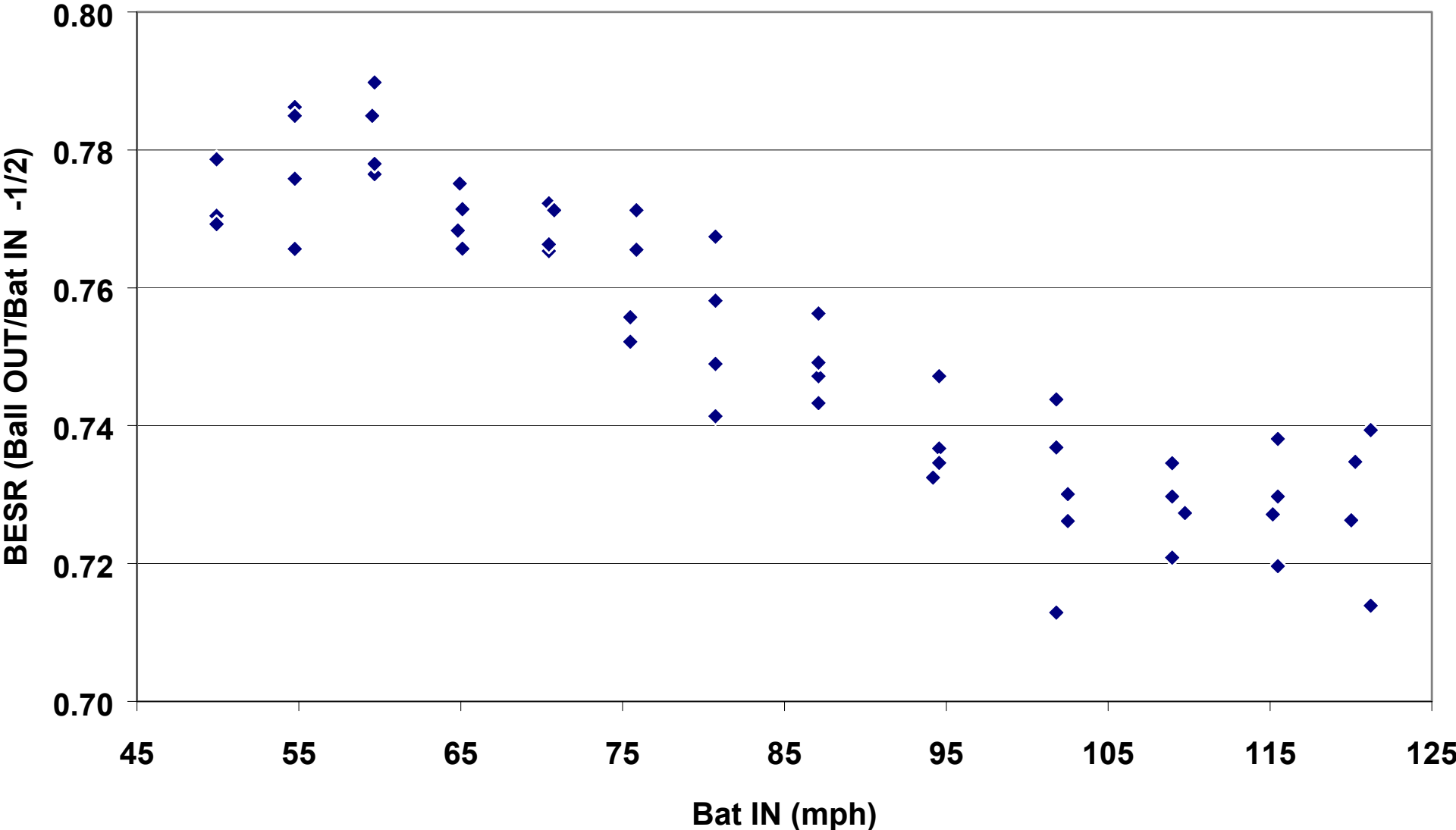
Baseball Durability

(1 Ball, 1 Bat, 125 Hits at 100 mph)



BESR vs Bat In

(1 Ball, 1 Bat 4 Impacts every 5 mph)





October 12, 2002

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