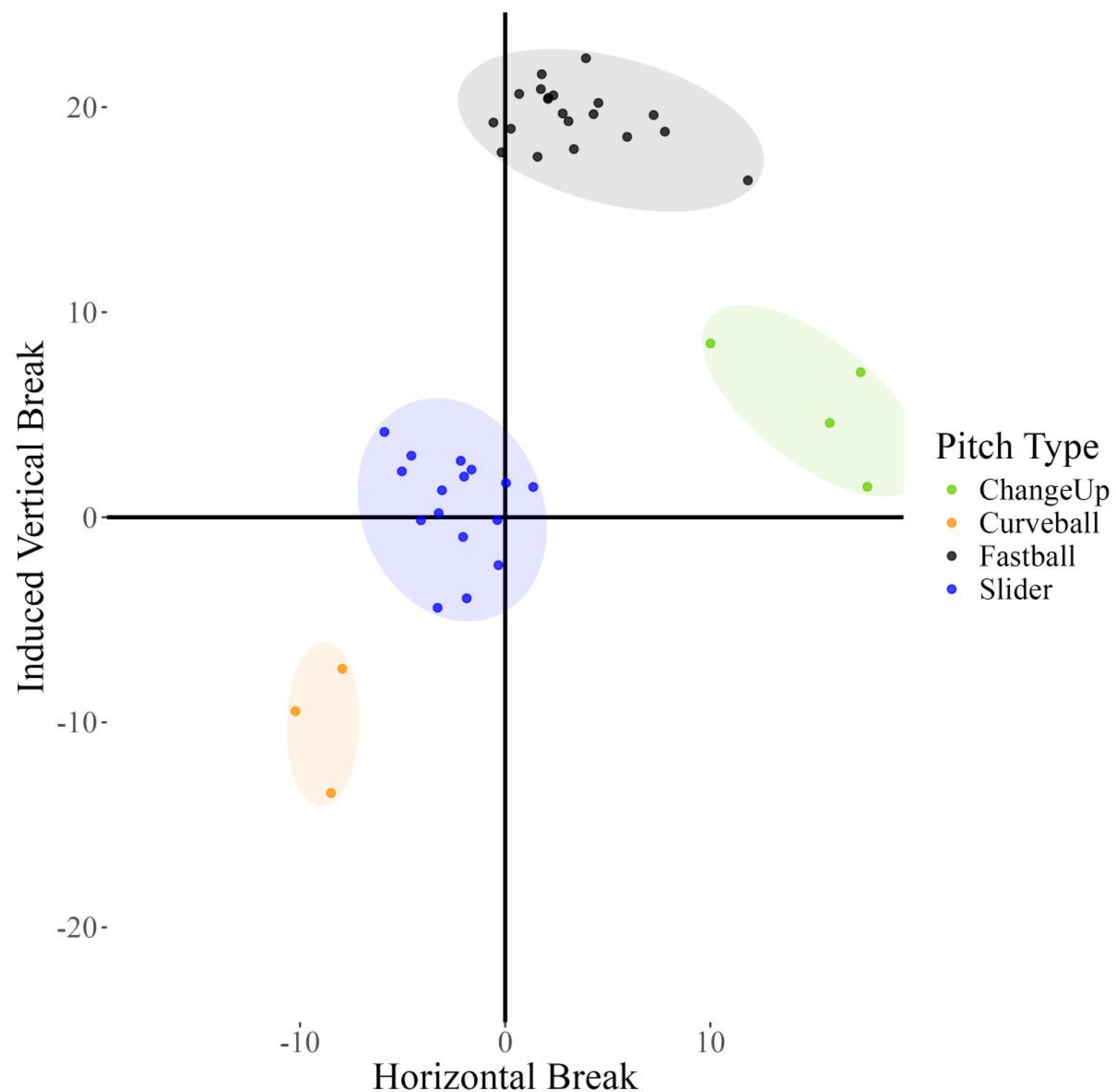


Pitch Movement

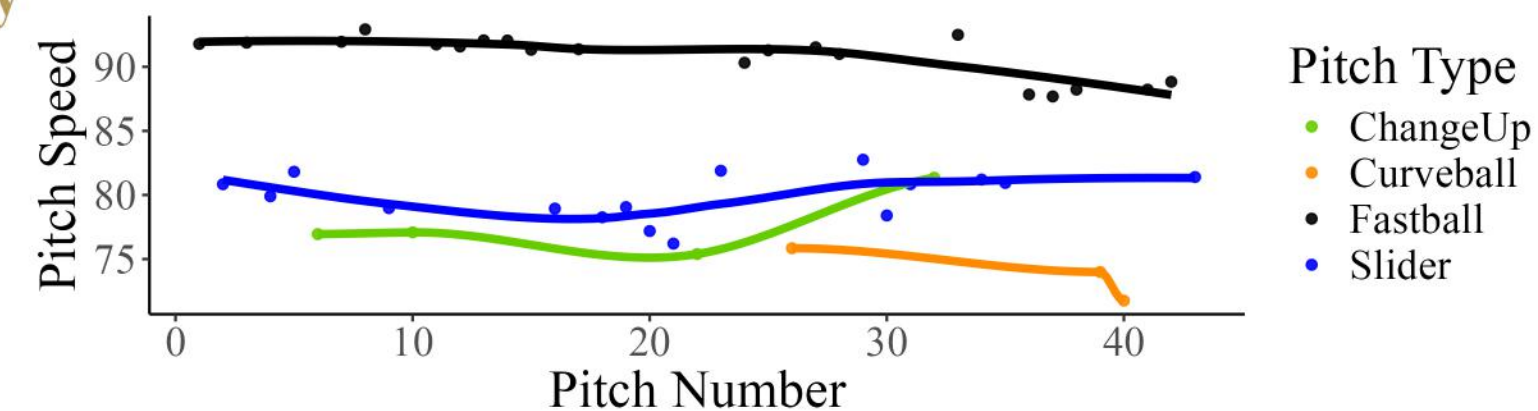


Outing Metrics

Pitch	Avg Velo	Velocity	Spin Rate	VAA	Tilt	Avg IVB	IVB	Avg Hor.B	Hor.B
ChangeUp	77.7	75.4 to 81.3	1548	-8.8	2:30	5.4	1 to 8	15.2	10 to 18
Curveball	73.9	71.8 to 75.8	2305	-7.7	7:15	-10.1	-13 to -7	-8.9	-10 to -8
Fastball	90.8	87.7 to 92.9	2332	-5.0	11:45	19.5	16 to 22	3.3	-1 to 12
Slider	79.9	76.2 to 82.8	2344	-8.1	7:49	0.6	-4 to 4	-2.4	-6 to 1

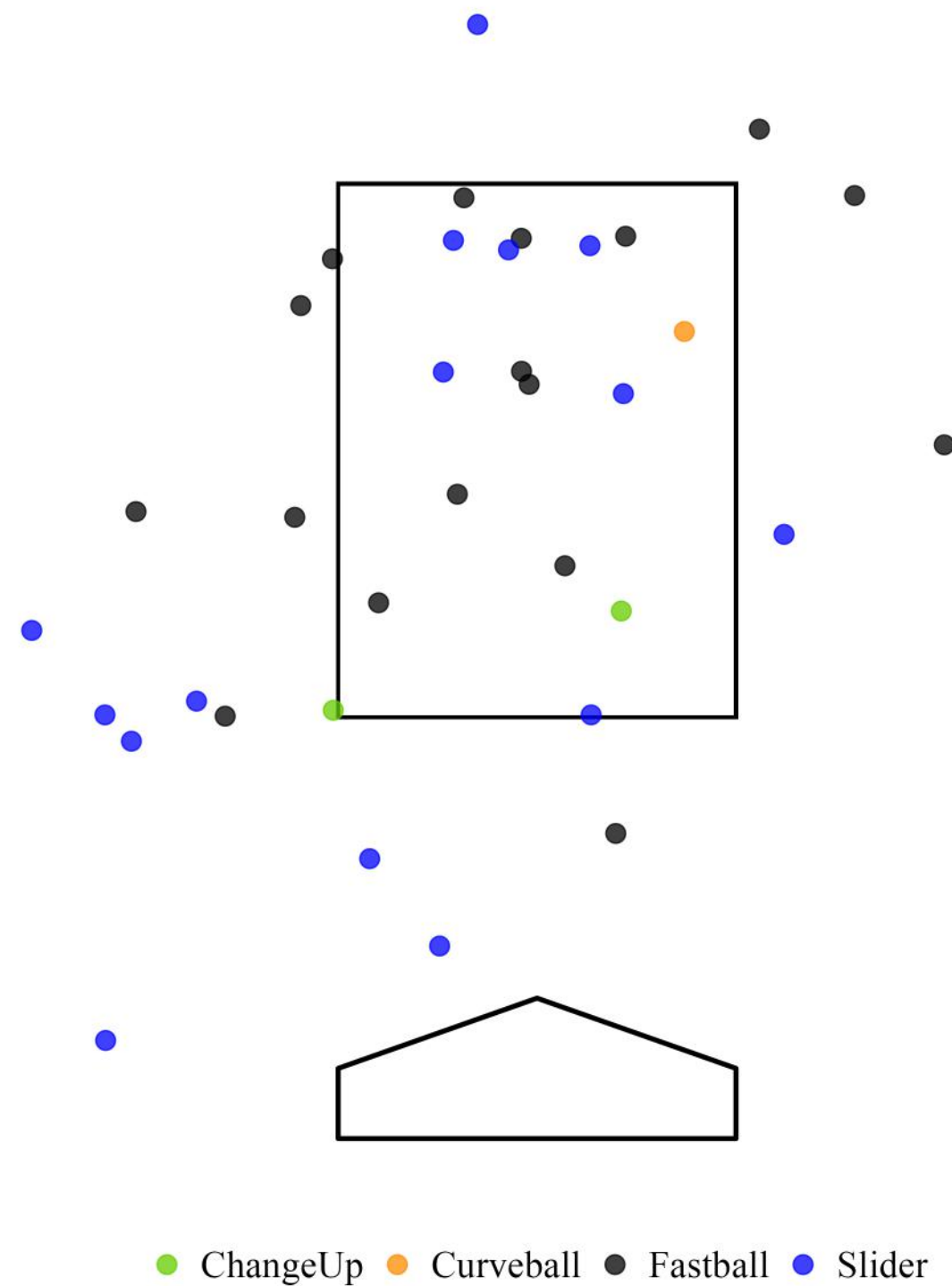
Pitch	Pitches	Pitch%	Strikes	Balls	Strike %	Swing & Miss	Swings	1st Pitch S%
ChangeUp	4	9.3%	3	1	75%	1	2	0 / 0
Curveball	3	7%	1	2	33%	0	0	0 / 1
Fastball	20	46.5%	12	8	60%	0	9	2 / 5
Slider	16	37.2%	8	8	50%	2	7	3 / 5

Velocity

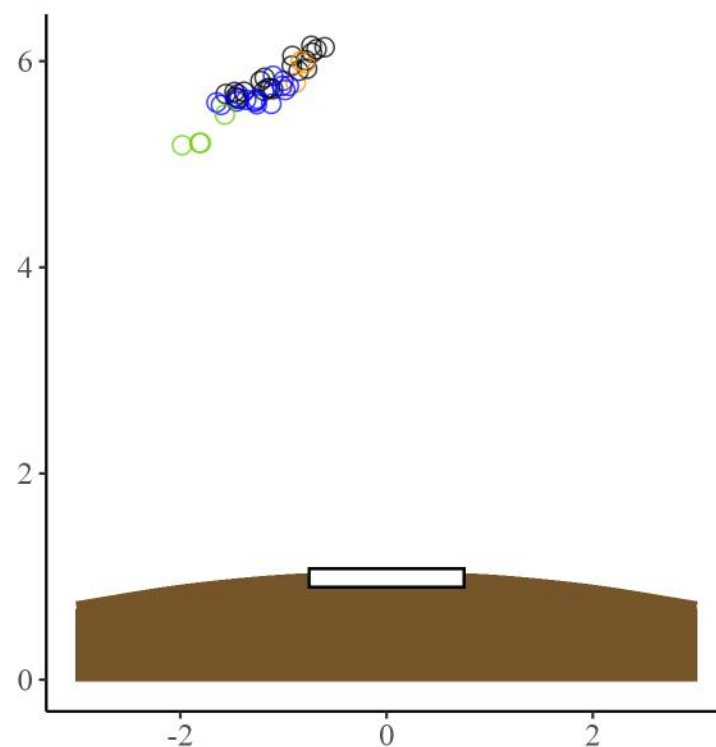


Shove Score: 68

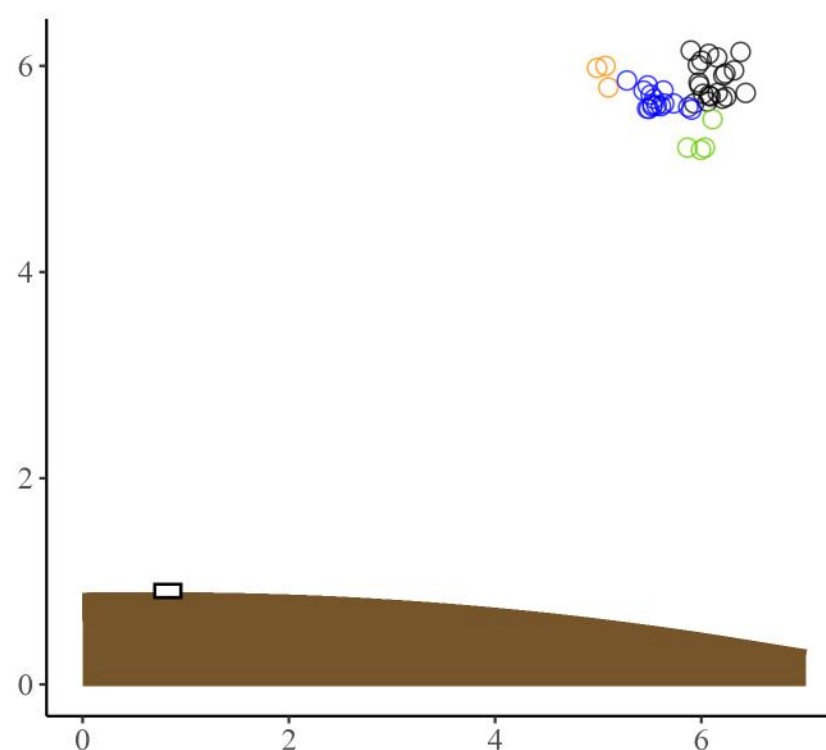
Pitch Location



Release (Front)

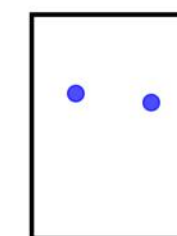


Release (Side)

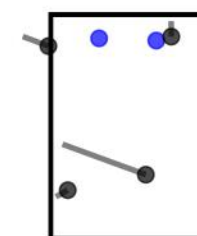


Quality of Contact

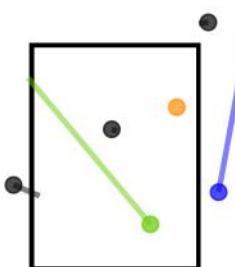
Hard Hit



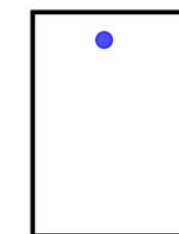
Non-Hard Hit



Strike Called

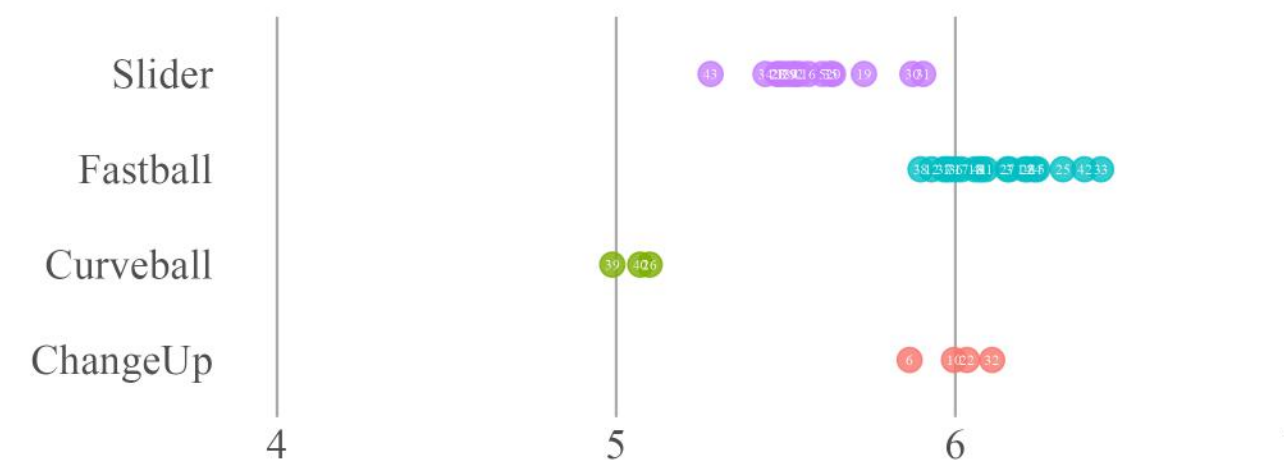


Swing & Miss

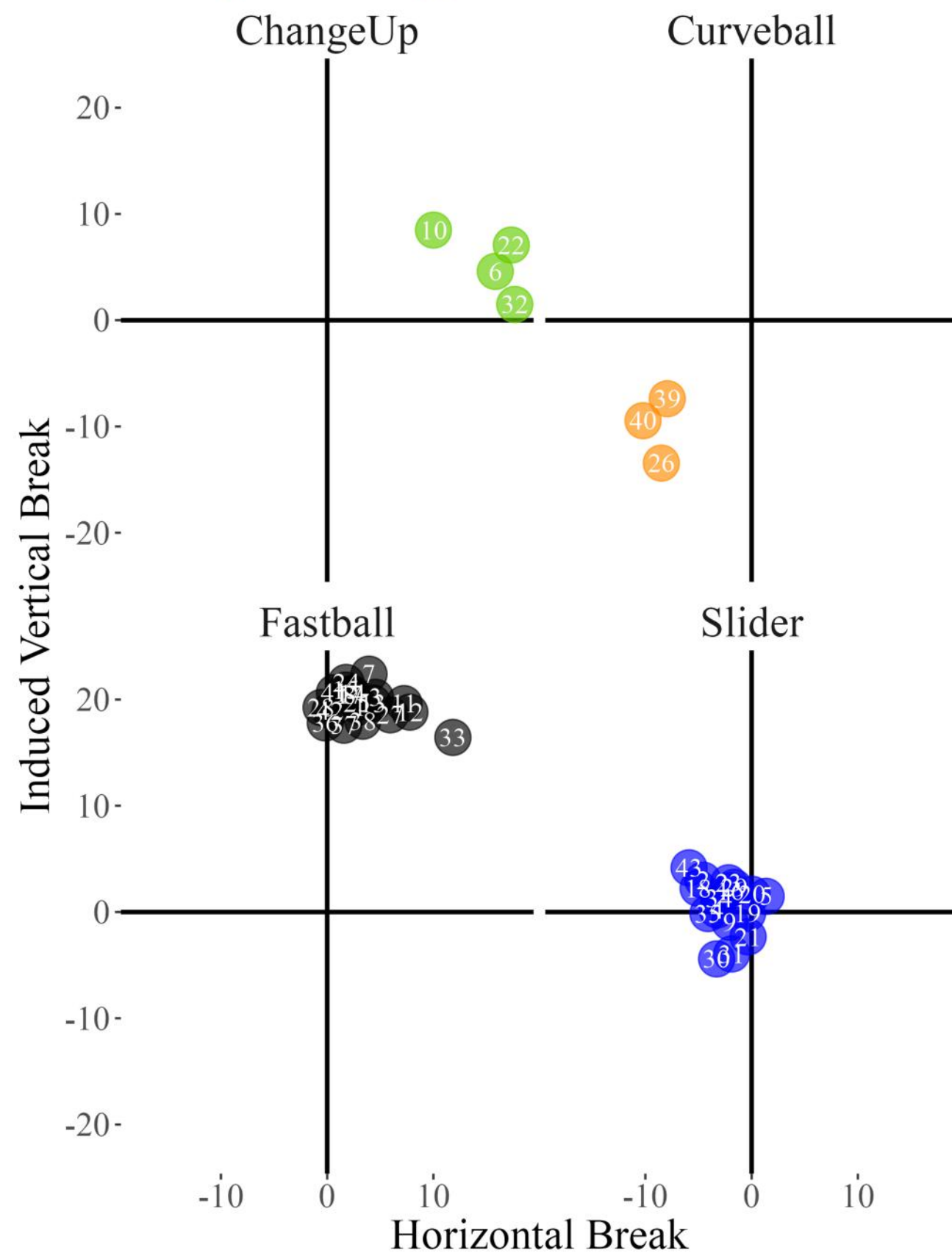


● ChangeUp ● Curveball ● Fastball ● Slider

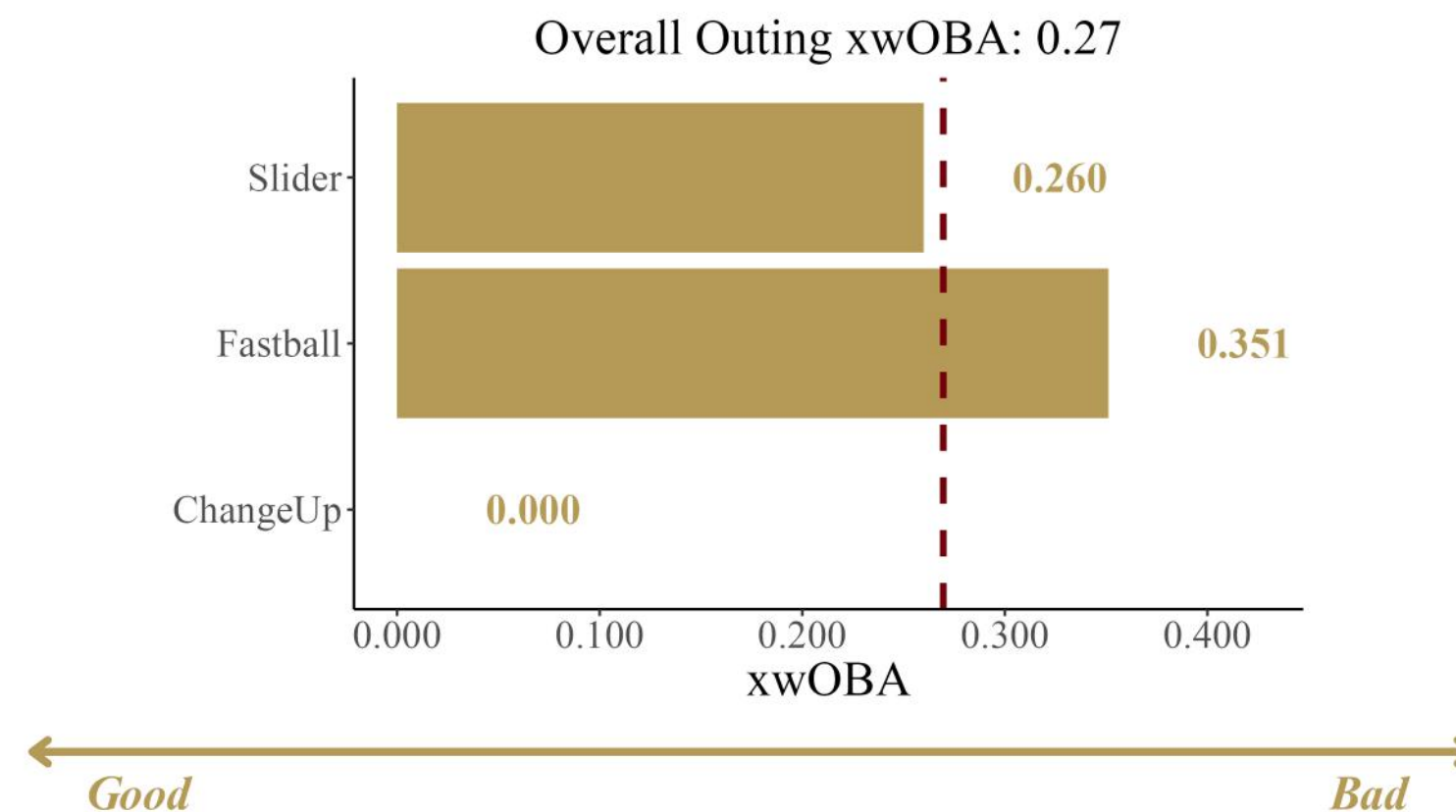
Extension



Pitch Movement by Pitch Type & Number



Quality of Contact by Pitch Type



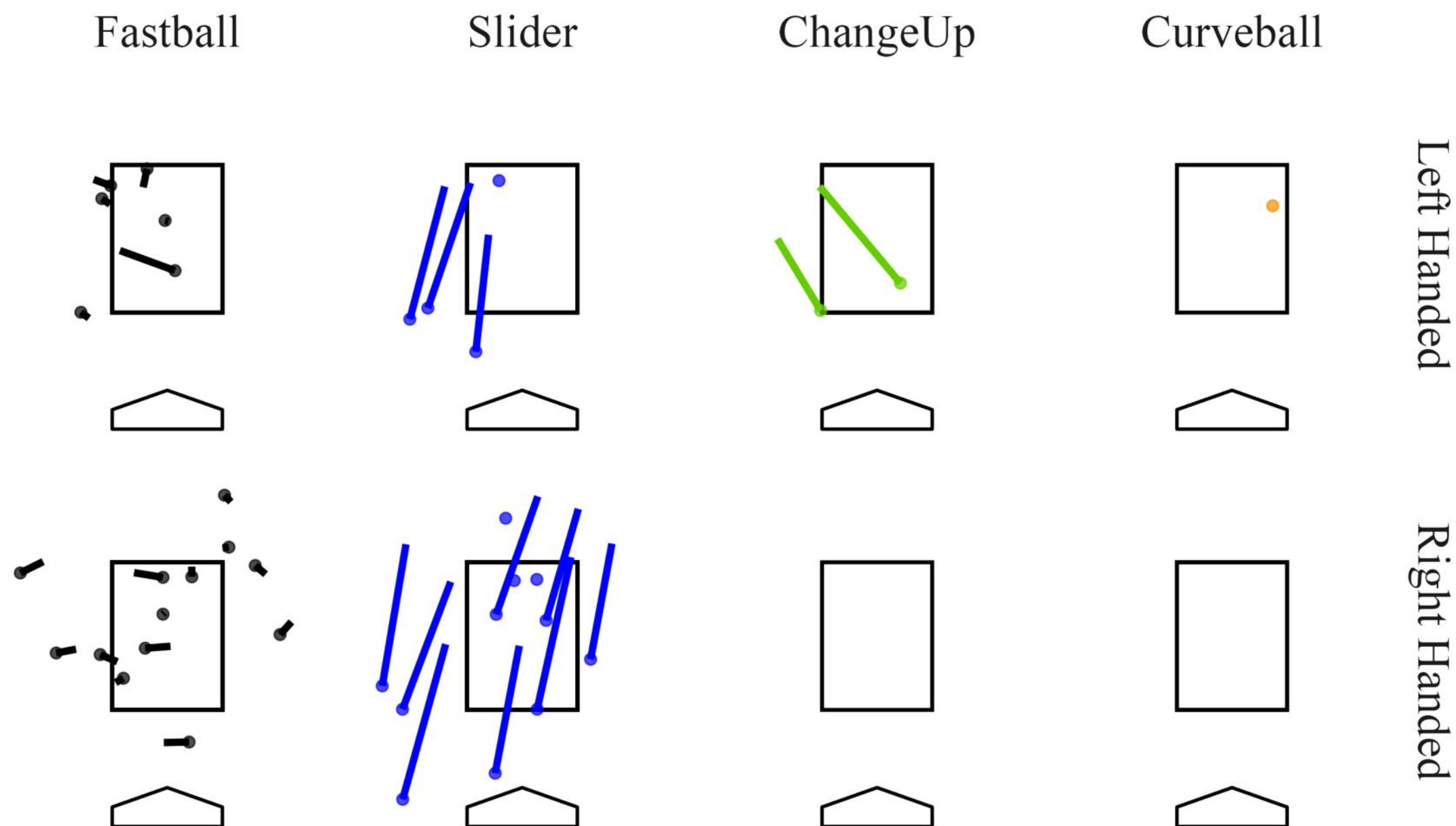
Batted Balls

Pitch	Ground	Fly	Line	Pop
ChangeUp	1	0	0	0
Fastball	1	2	1	0
Slider	3	2	0	0
Total	5	4	1	0

Hard Hit Balls (95+ EV)

Pitch	Ground	Fly	Line	Pop
Slider	2	0	0	0
Total	2	0	0	0

Pitch Location & Tunnel by Batter Handedness



Count Outcomes vs. RHH

Count	ChangeUp	Curveball	Fastball	Slider	Total
P Ahead	1	0	1	5	7
0-0	0	1	3	4	8
P Behind	0	1	6	1	8
Even	0	0	3	1	4
Full	0	0	0	1	1

Count Outcomes vs. LHH

Count	ChangeUp	Curveball	Fastball	Slider	Total
Full	1	0	0	0	1
P Ahead	1	0	2	0	3
P Behind	1	0	2	2	5
Even	0	1	1	1	3
0-0	0	0	2	1	3

Glossary

Induced Vertical Break: Abbreviated as “IVB.” Vertical movement of a pitch due to spin (in Inches. Fastballs are positive IVB, Curveballs are negative).

Horizontal Break: Abbreviated as “Hor.B.” Horizontal movement of a pitch due to spin (in Inches. LHP Sliders are positive. RHP Sliders are negative).

Spin Rate: How much a pitch spins (Measured in Revolutions per Minute (RPM)).

VAA: Vertical Approach Angle. Generally negative. Closer to 0 degrees is closer to throwing a pitch completely straight/flat.

Tilt: Direction in which the ball is spinning, reported as time on a clock face (Fastball is close to 12:00, Curveball is close to 6:00).

Hard Hit Ball: A batted ball with an exit velocity (EV) of at least 95 mph.

Extension: How far away (in feet) from the pitching rubber (towards home plate) that the ball is released (MLB average is over 6 feet).

xwOBA: wOBA but solely reliant on the quality of contact given up: exit velocity and launch angle of batted balls allowed (Average pitching outing is 0.380).

Tunnel: The perceived location of a pitch assuming it moves with the same trajectory as a pitch with different movement (usually compared to a fastball).

Shove Score: Metric from 0-100 measuring overall pitcher performance for the outing (based on Percentiles in the CAA). Composed of walks, strikeouts, barrel percent, strike percent, first pitch strike percent, fastball movement, fastball speed, quality of contact, and whiff percent.