

# THE SPLITTER: BASEBALL'S MOST MISUNDERSTOOD PITCH

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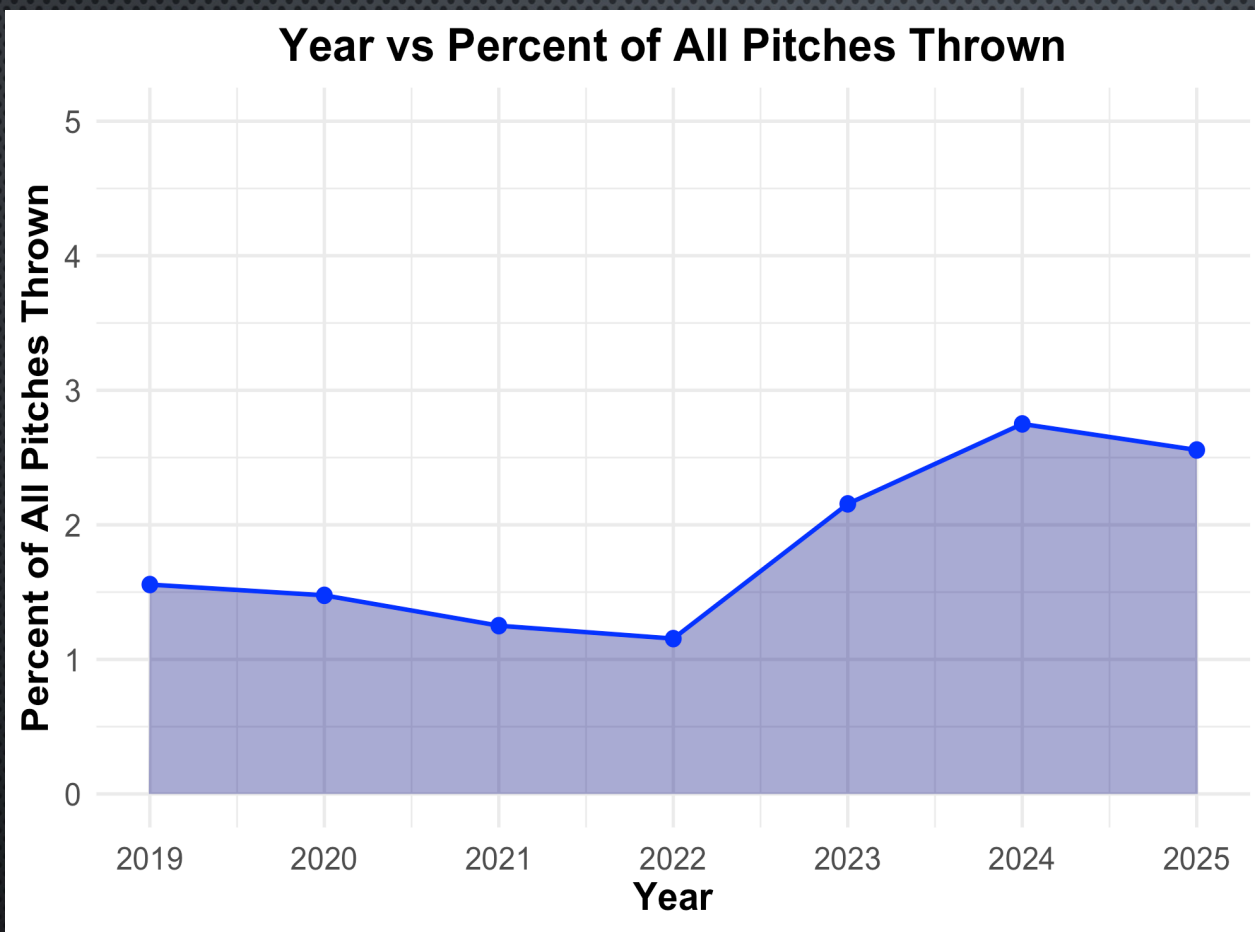
VANDERBILT UNIVERSITY



1 – The Splitter's Value

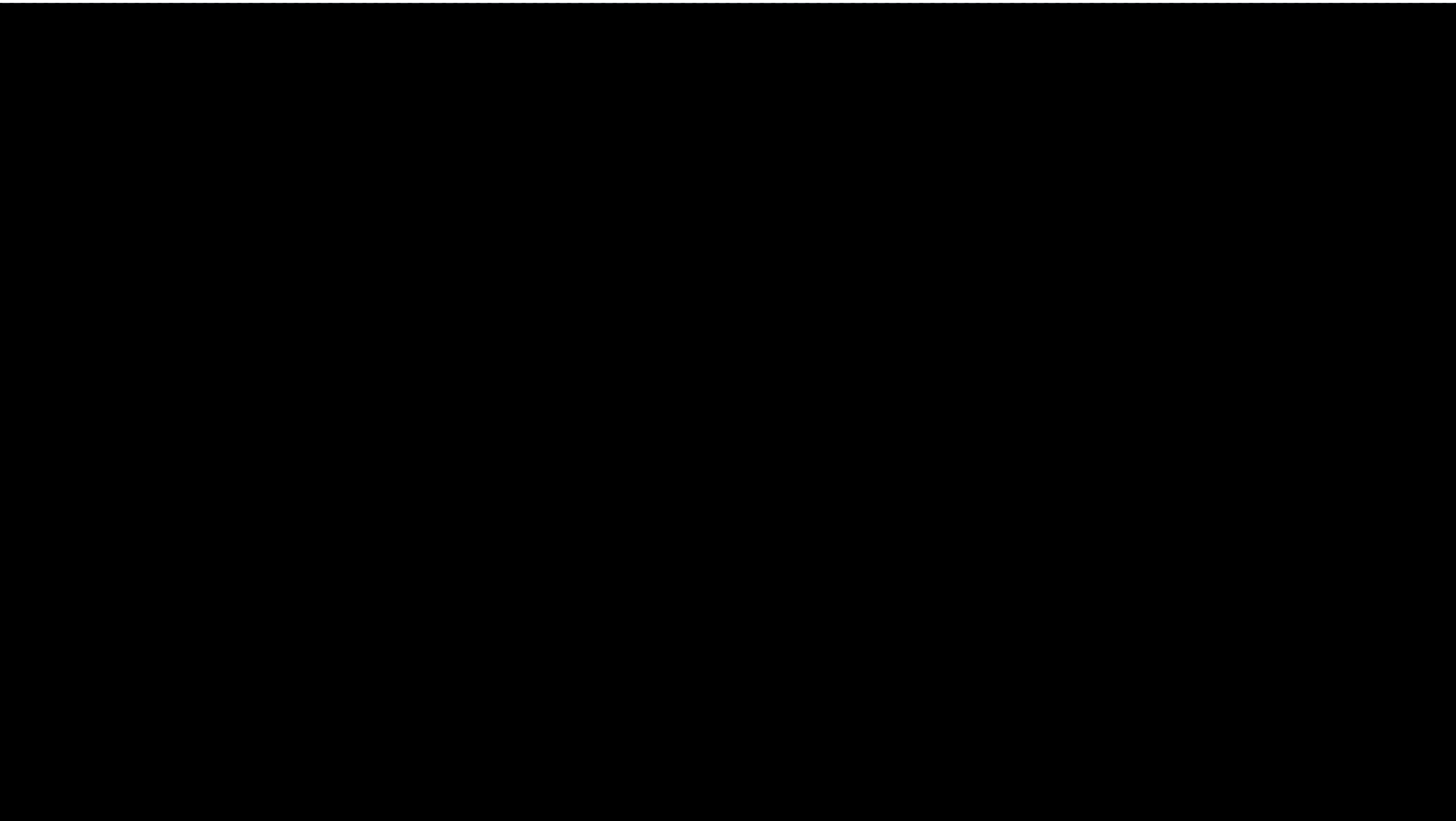
2 – Misunderstood by the Models

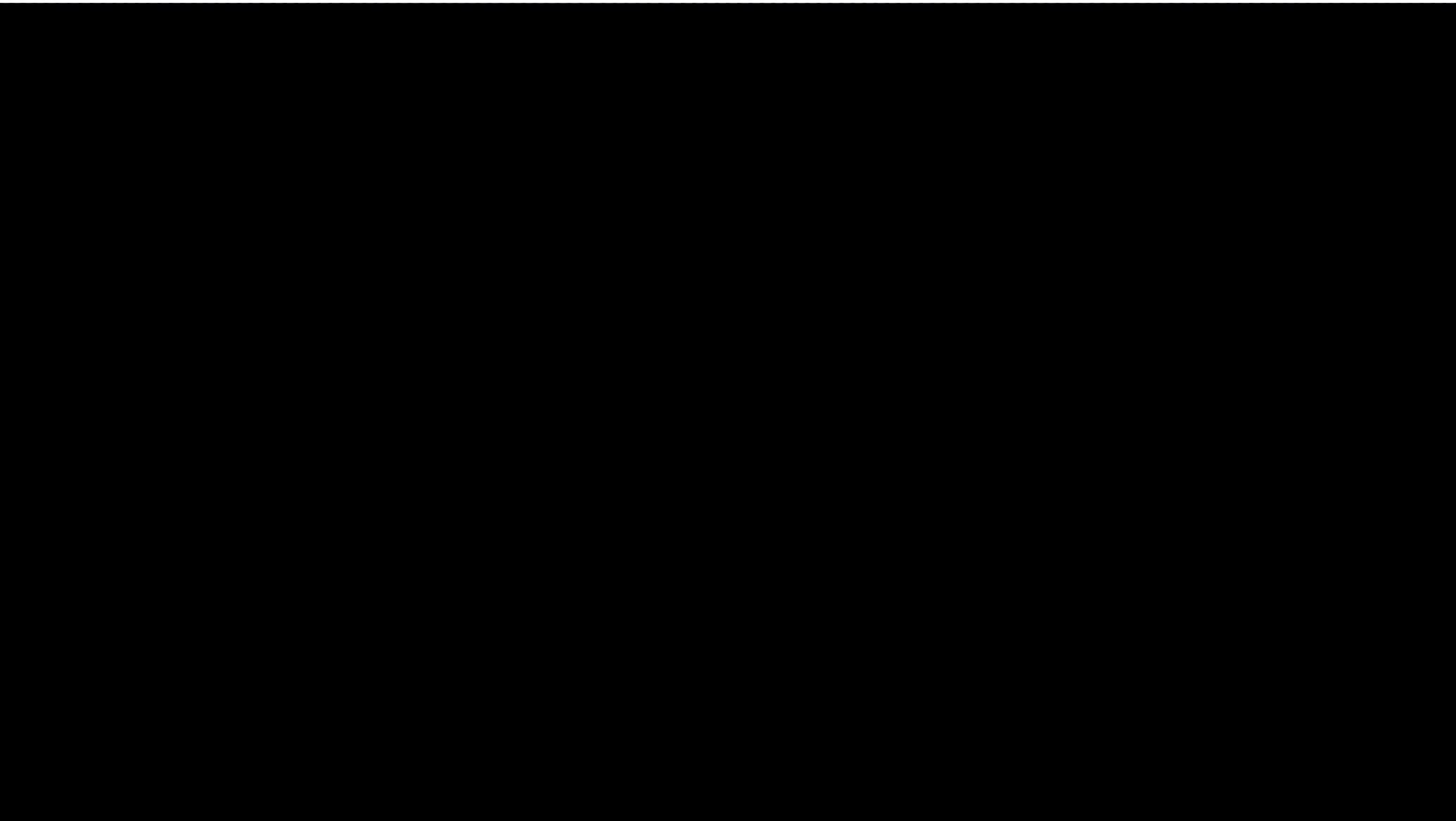
3 – Underrated by the Models



Splitters increasing in usage over the past five years

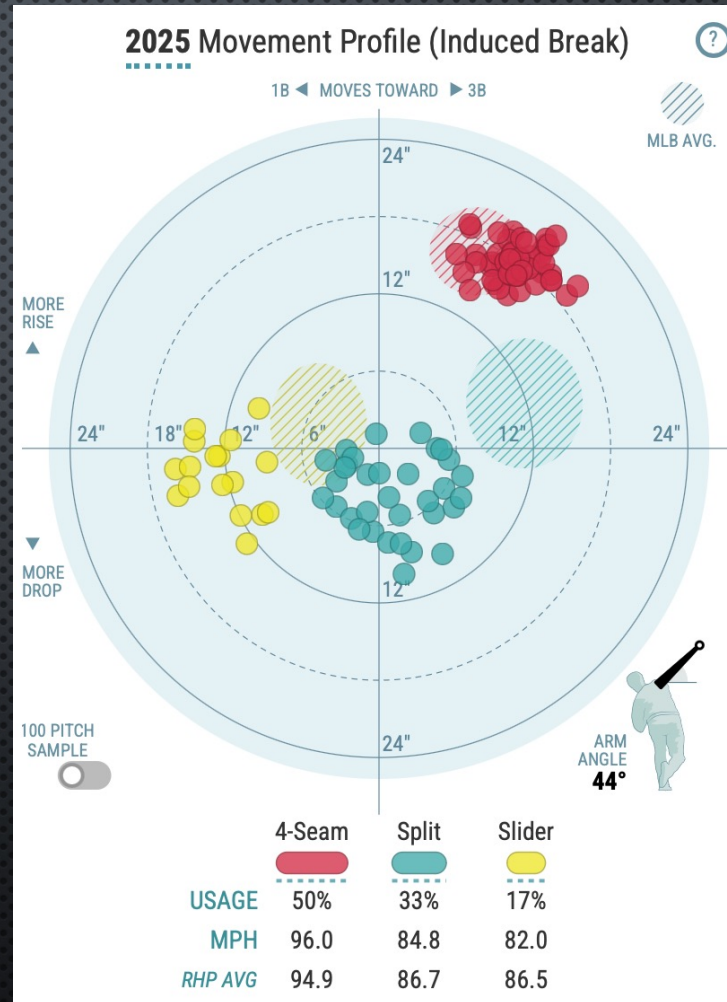
Source: Baseball Savant







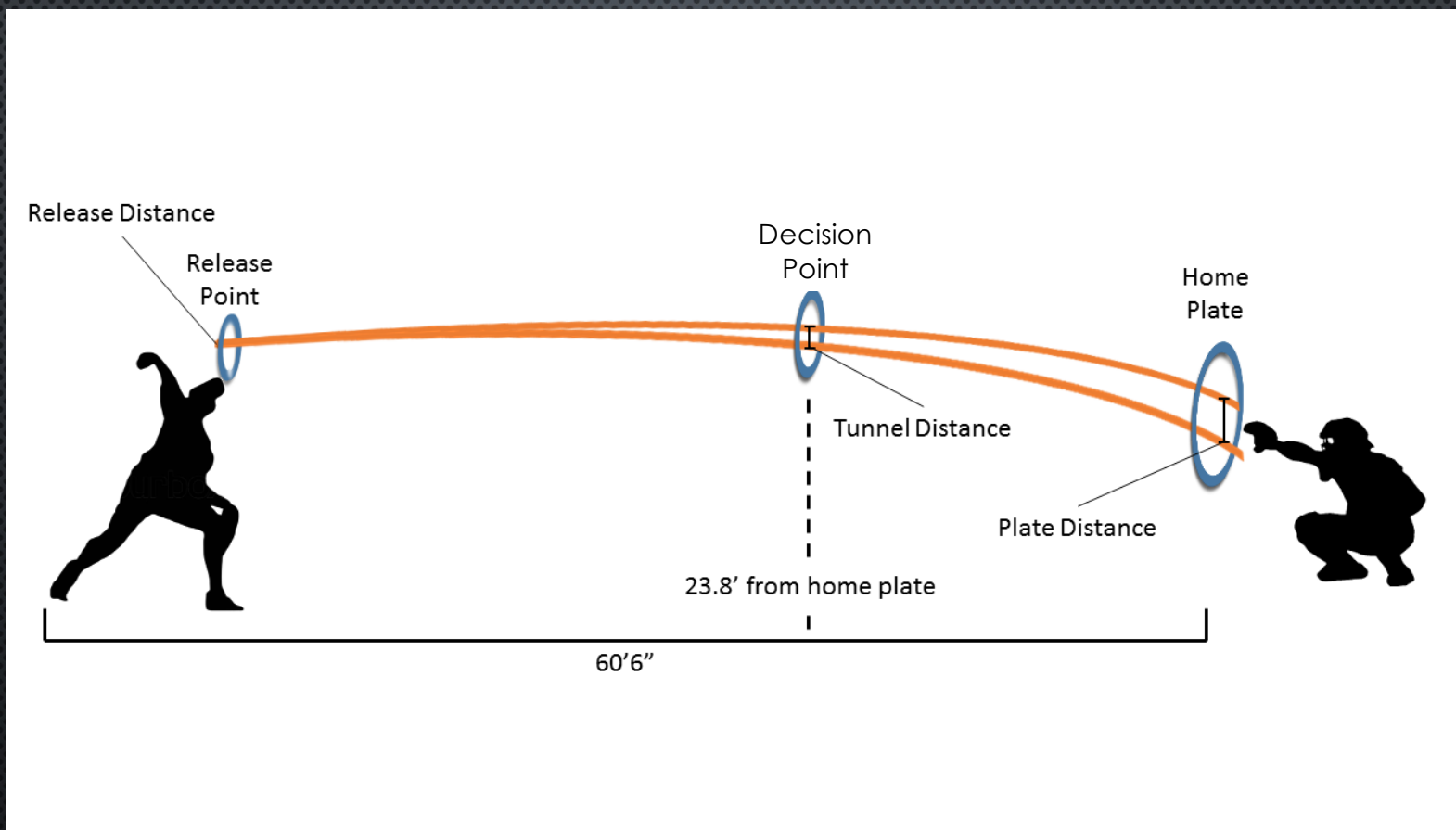
Roki Sasaki's pitch plot

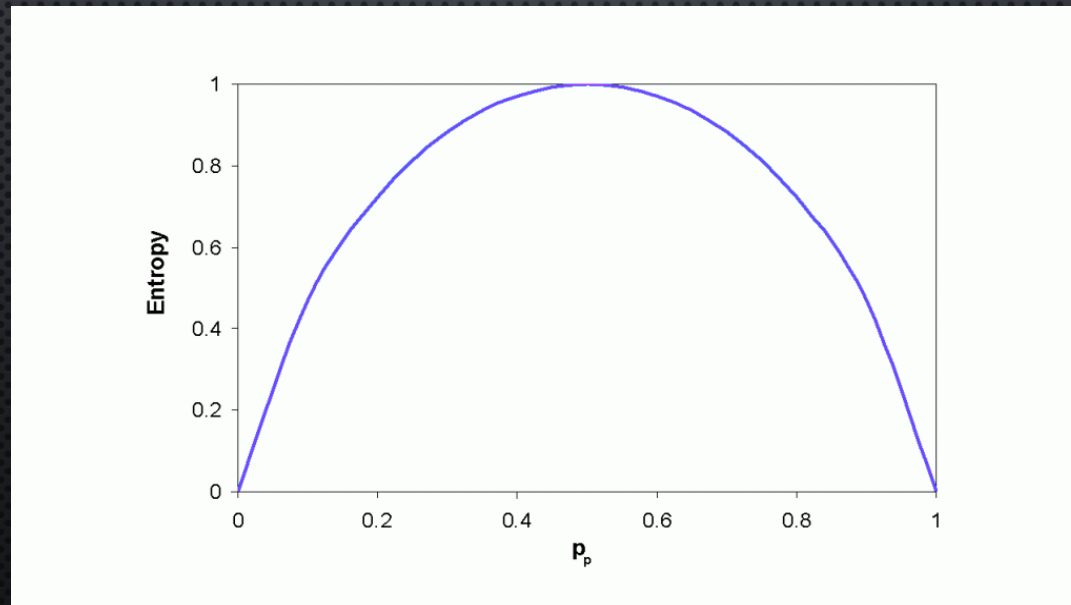
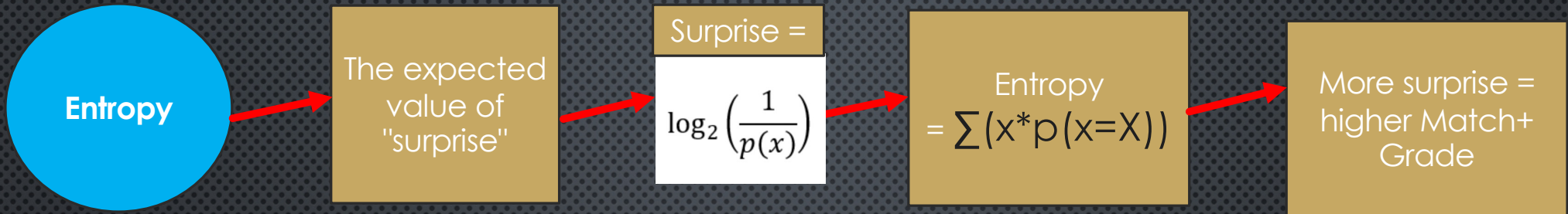


Source: Baseball Savant



# MATCH+ AND TUNNELING







661 RPM's

740 RPM's

814 RPM's

## Match+

Pitchers with low spin splitters



Pitcher

Match+



Justin Martinez

124



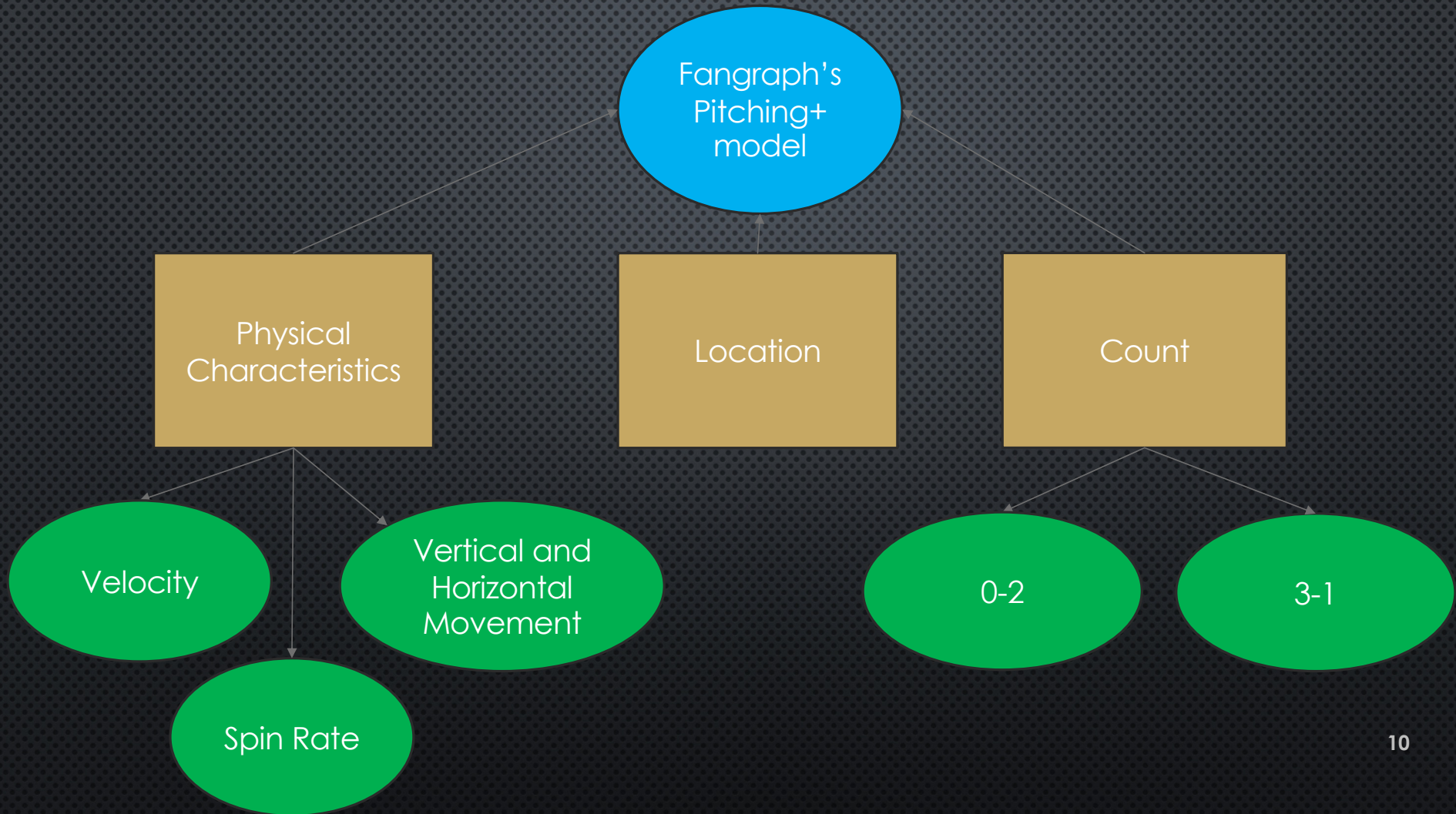
Logan Gilbert

120



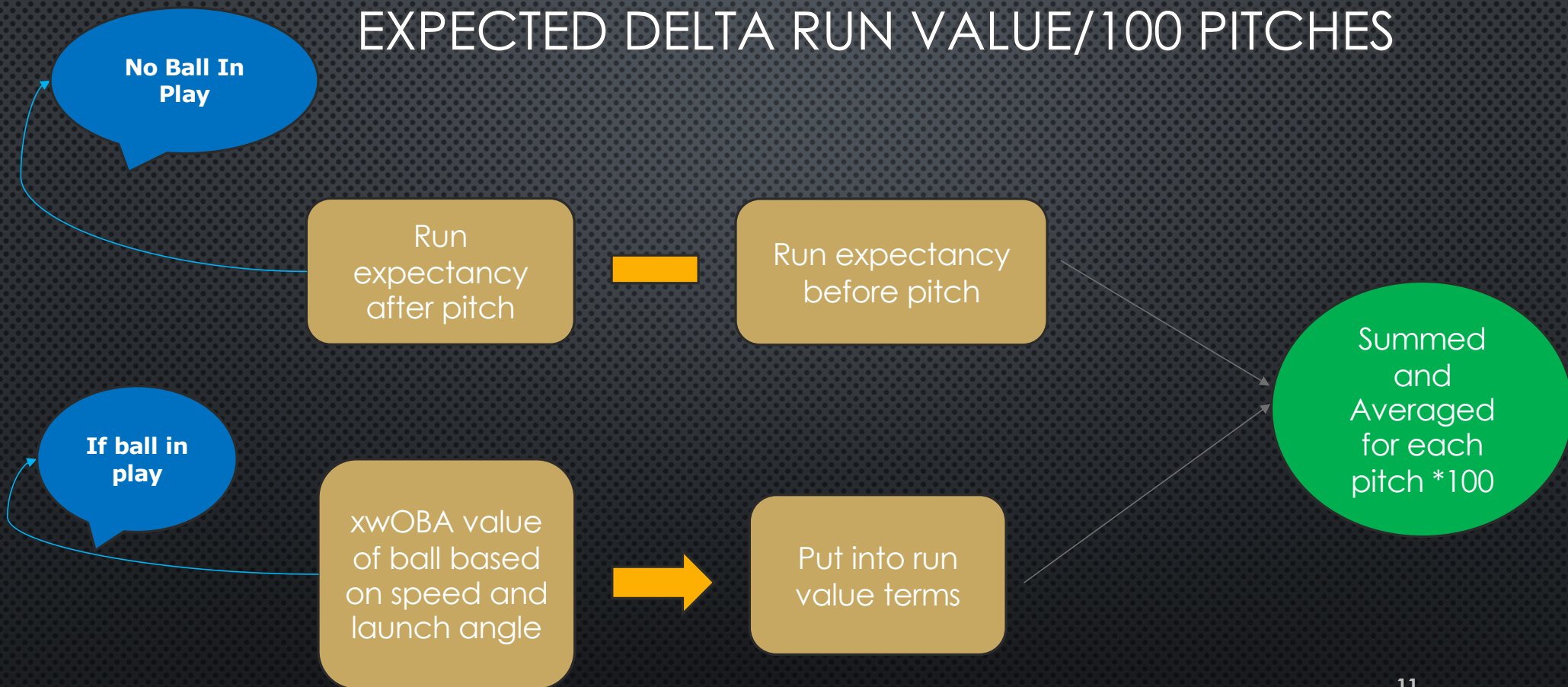
Fernando Cruz

116





# EXPECTED DELTA RUN VALUE/100 PITCHES





# HOW DOES PITCHING+ CORRELATE WITH EXPECTED DELTA RUN VALUE?

Pitch Type	Pitches thrown in 2025	Correlation between Pitching+ grades and expected delta run value
<b>Splitter</b>	16059	<b>-0.33</b>
<b>Slider</b>	105793	<b>-0.35</b>
<b>Cutter</b>	38078	<b>-0.39</b>
<b>Sinker</b>	74924	<b>-0.41</b>
<b>Curveball</b>	33087	<b>-0.41</b>
<b>Fastball</b>	153411	<b>-0.42</b>
<b>Changeup</b>	48899	<b>-0.49</b>
<b>Knuckle Curve</b>	8129	<b>-0.52</b>

Worse Prediction

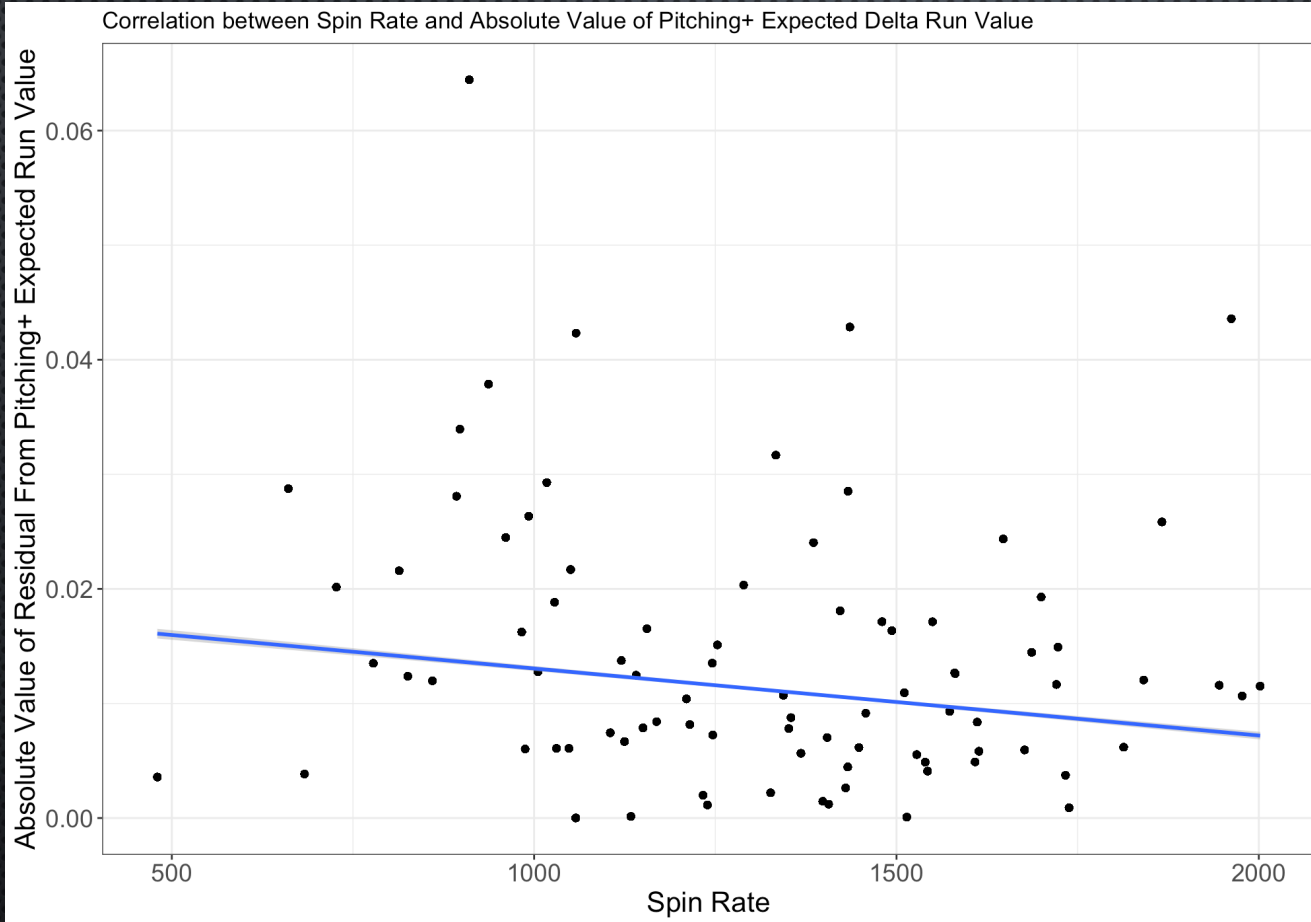


Better Prediction

Splitters have the worst correlation among all pitches

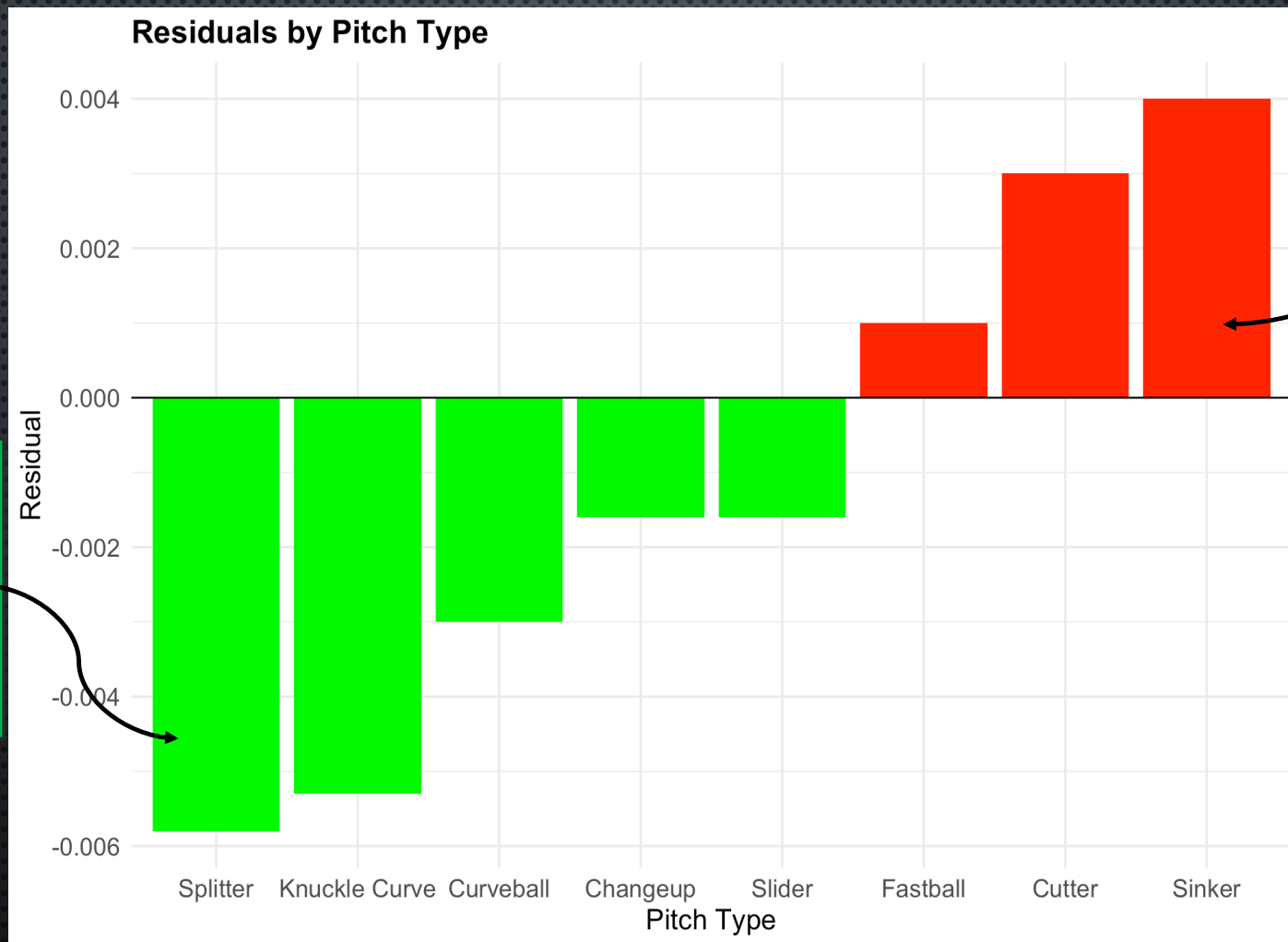


# MISUNDERSTOOD BY THE MODELS

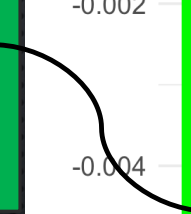


Lower spin rates are correlated with higher residuals between Pitching+ grade and observed EDRV

Significant at 5% level



Overperforming Pitching+



Underperforming Pitching+

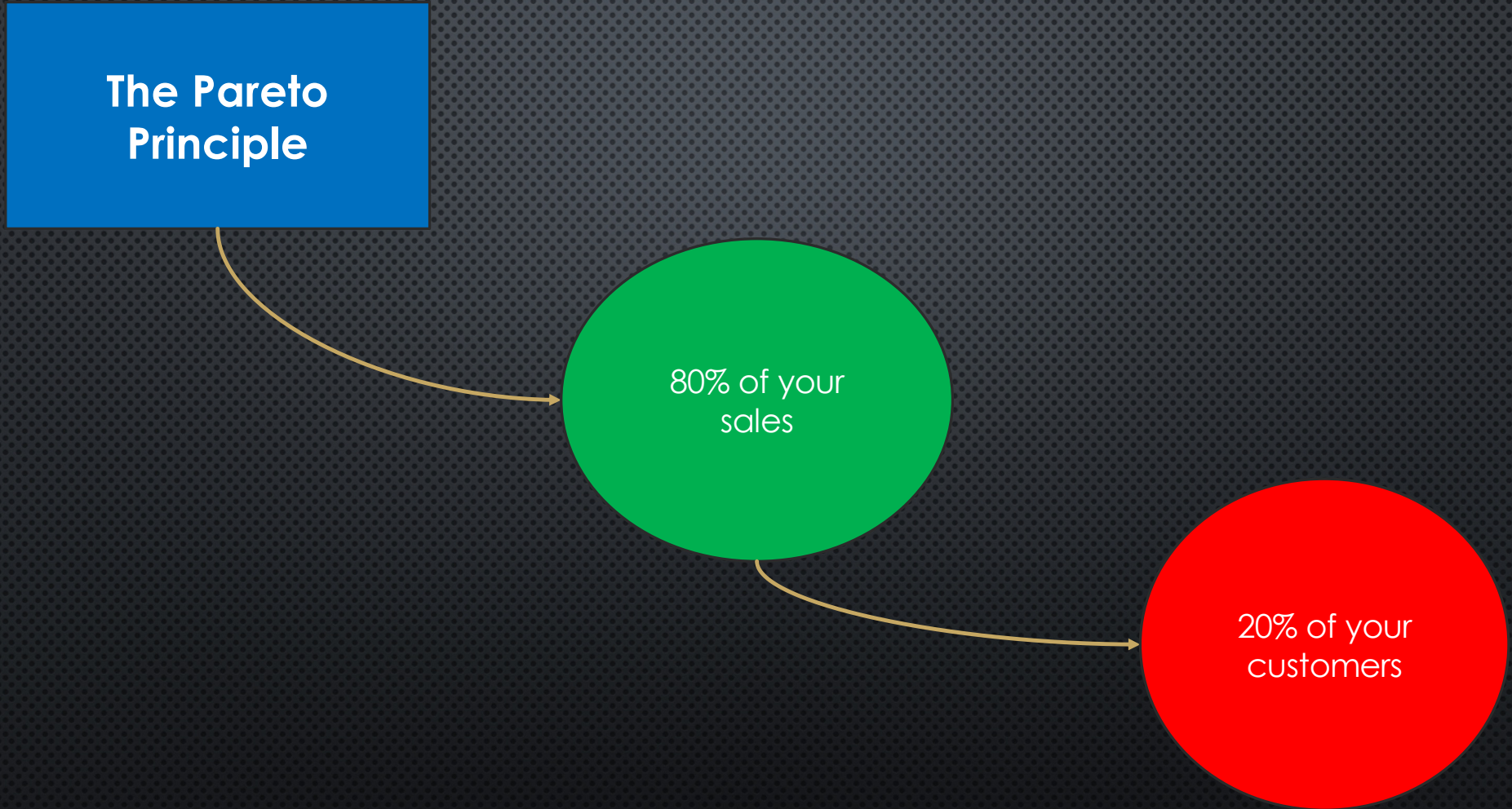




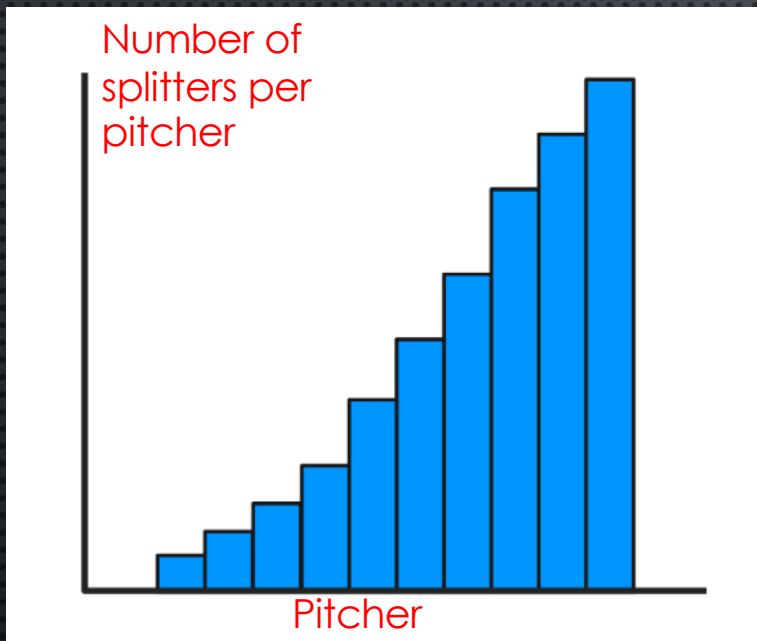
## The Pareto Principle

80% of your sales

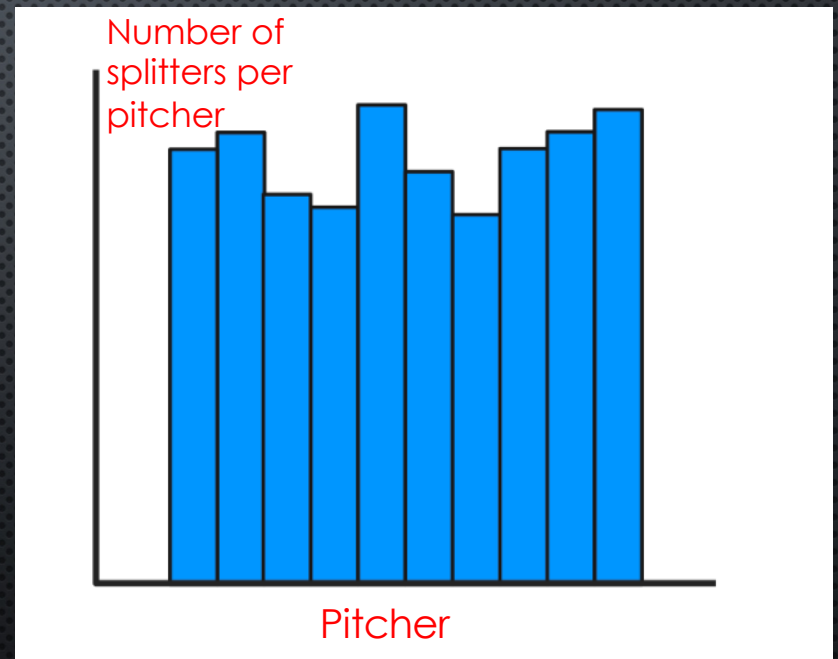
20% of your customers



# IMPURE



# PURE

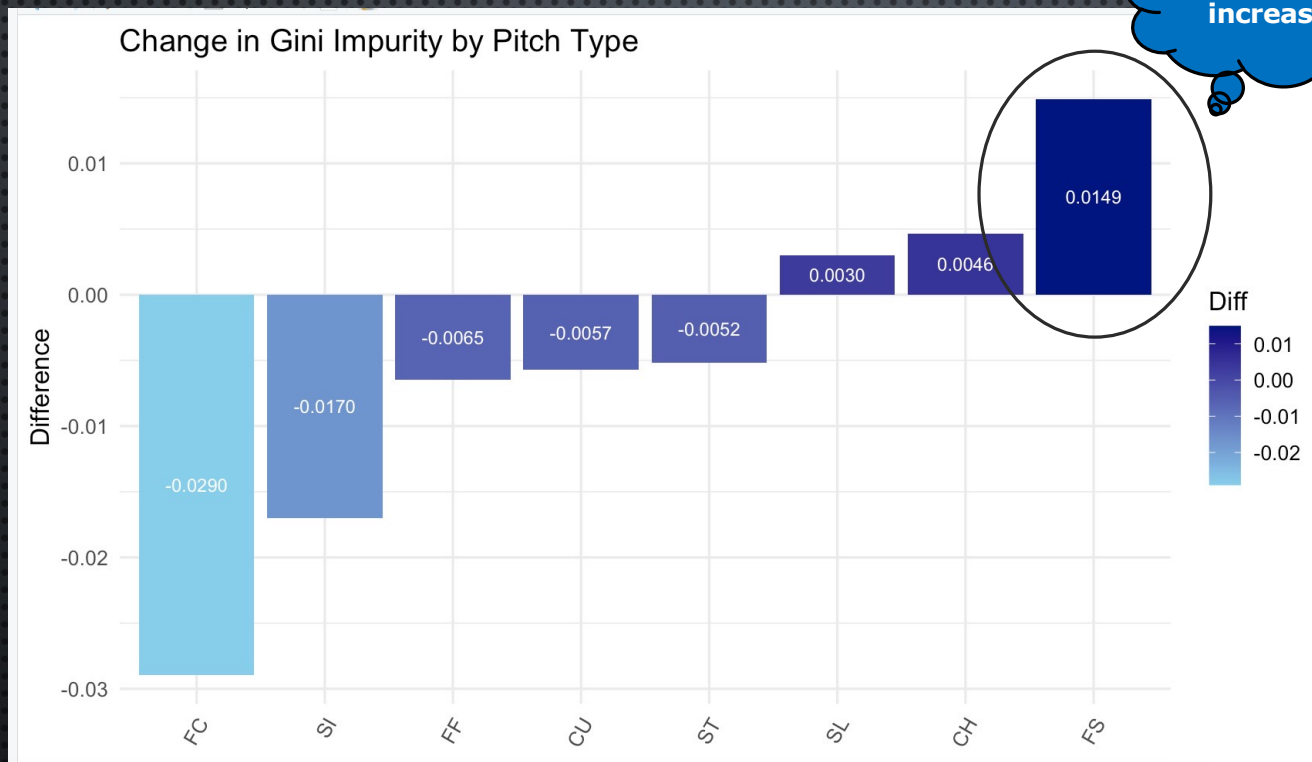




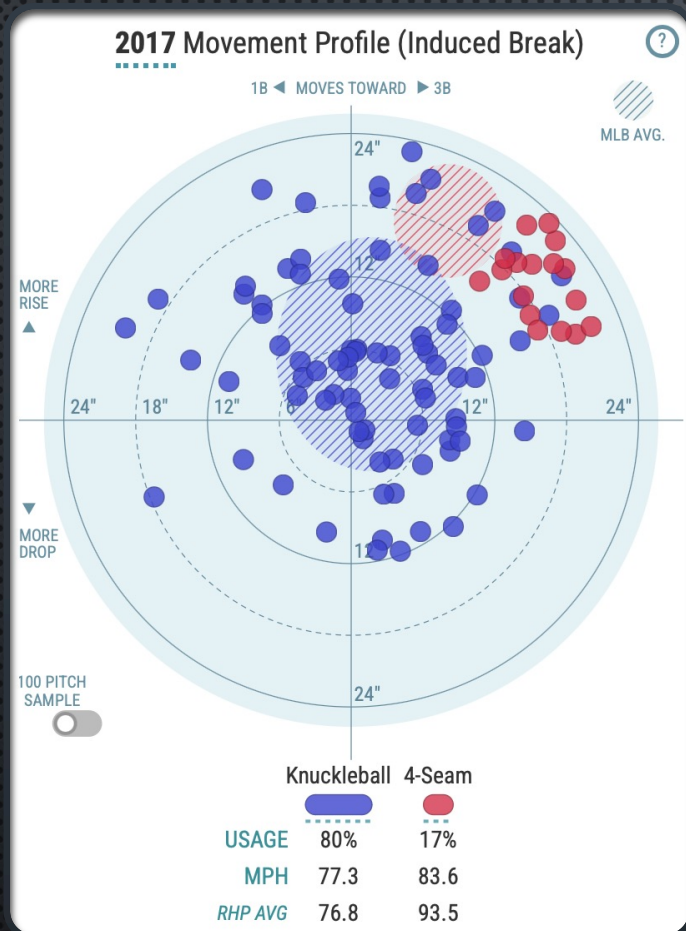
# IMPURITY

More Impure

More Pure



r coefficient of 0.83 between impurity change and residuals of Pitching+ vs expected delta run value.

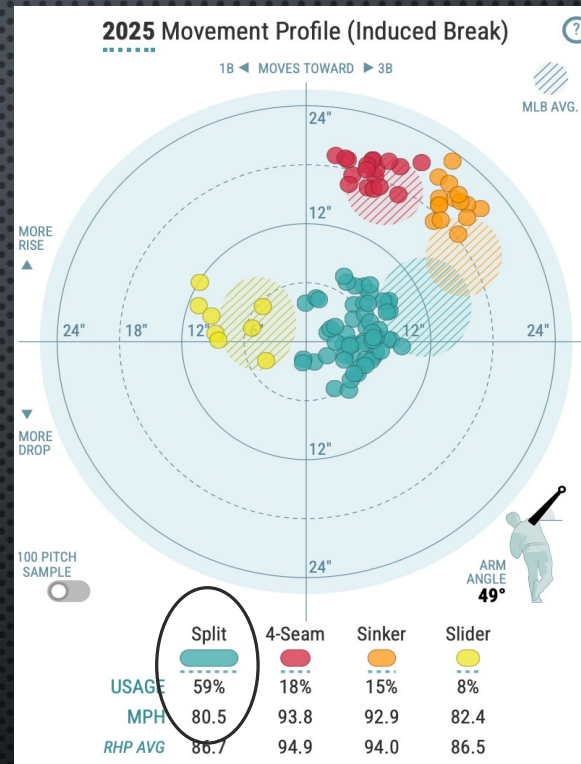
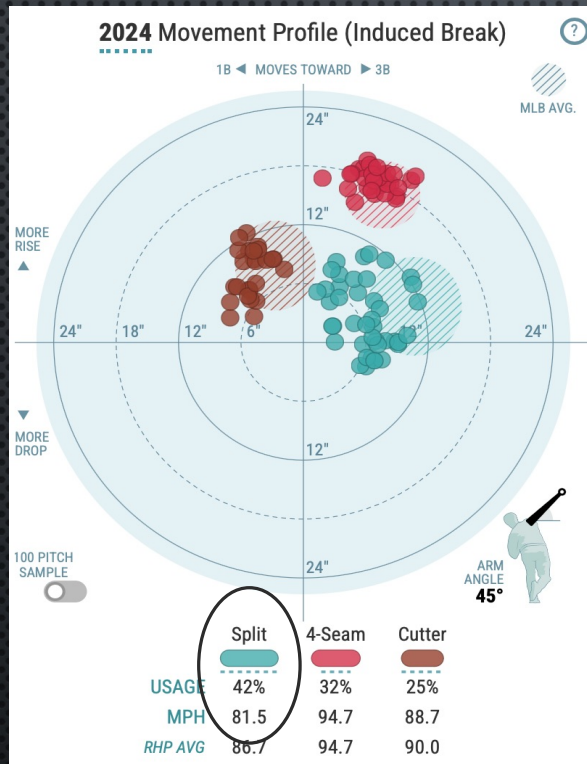


# RA DICKEY AND PITCH DECAY

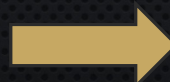
Source: Baseball Savant



# FERNANDO CRUZ: DEFYING PITCH DECAY



Splitter EDRV: **-2.56**



Splitter EDRV: **-2.67**



# RECAP

