

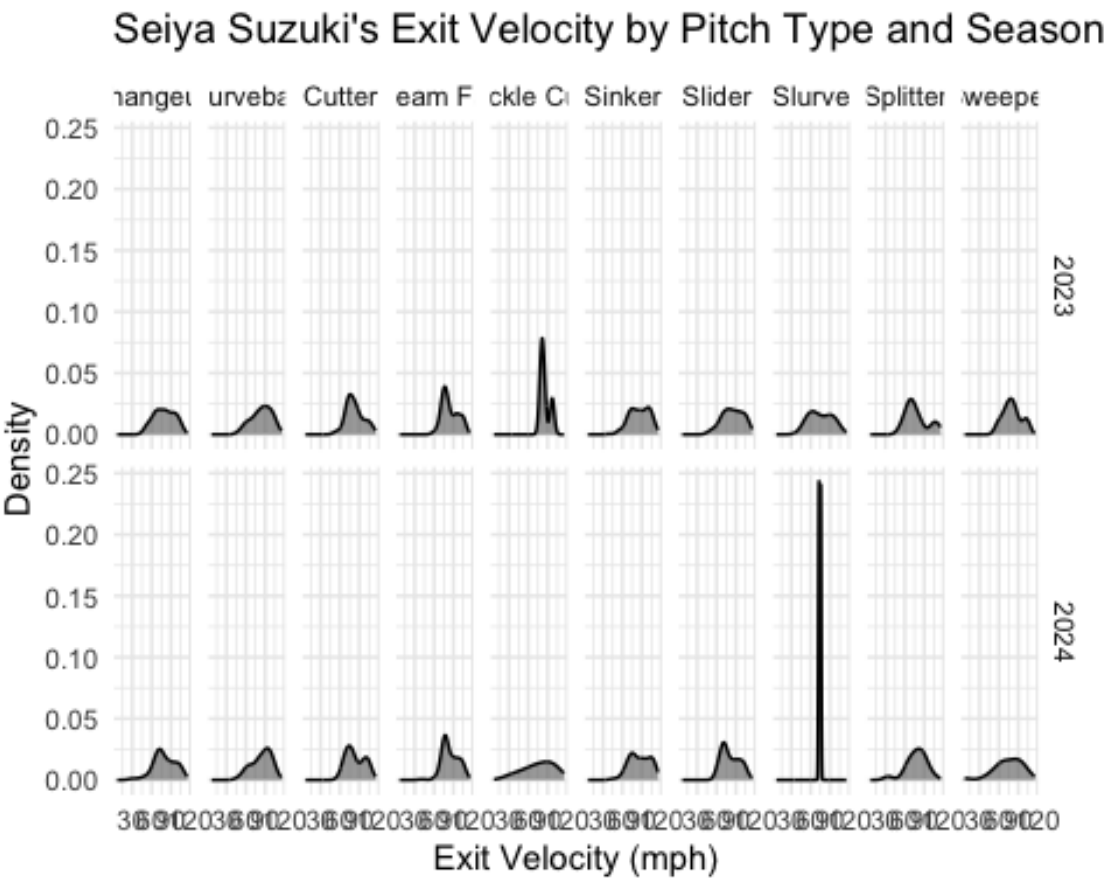
Seiya Suzuki Batted Ball Analysis

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This project examines Seiya Suzuki’s batted-ball profile over the 2023 and 2024 seasons aiming to explore his offensive patterns and approach at the plate. The three scenarios explored in this analysis offer a data-driven look at the development of Suzuki’s profile from one year to the next, particularly as he’s started to emerge as a serious threat at the plate in these two years.

Scenario 1: Seiya Suzuki Exit Velo by Pitch and Year



```
## # A tibble: 12 x 4
##   pitch_full      season_2023 season_2024    diff
##   <chr>          <dbl>      <dbl>    <dbl>
## 1 Knuckle Curve      85.6        75.9    9.75
## 2 Sweeper            80.2        74.7    5.50
## 3 Slider            84.8        81.5    3.31
## 4 Slurve            75.2        74.2    1.01
## 5 Cutter            82.8        83.6    0.808
```

```
## 6 Four-seam Fastball      84.5      85.0  0.529
## 7 Splitter                77.6      77.9  0.362
## 8 Sinker                  86.3      86.5  0.208
## 9 Curveball              84.3      84.1  0.197
## 10 Changeup              79.5      79.6  0.0881
## 11 Forkball              101.      NA    NA
## 12 <NA>                   NA      90.8 NA

## # A tibble: 22 x 3
##   pitch_full      season count
##   <chr>          <int> <int>
## 1 Four-seam Fastball  2024   237
## 2 Four-seam Fastball  2023   206
## 3 Sinker             2023   180
## 4 Sinker             2024   148
## 5 Slider             2023   116
## 6 Slider             2024   100
## 7 Cutter            2024    73
## 8 Changeup           2023    71
## 9 Cutter            2023    57
## 10 Changeup          2024    55
## # i 12 more rows
```

The pitch with the largest difference in average exit velo between 2023 and 2024 was the knuckle curve, which went from 85.65 mph in 2023 to 75.90 mph in 2024 - a difference of 9.750 mph. There are very limited data points on this pitch though as he only batted 4 of these in 2023 and 8 of them in 2024.

```
## # A tibble: 26 x 4
##   pitch_type season count pitch_full
##   <chr>      <int> <int> <chr>
## 1 FF        2023   682 Four-seam Fastball
## 2 SI        2023   524 Sinker
## 3 SL        2023   405 Slider
## 4 CH        2023   245 Changeup
## 5 FC        2023   203 Cutter
## 6 ST        2023   161 Sweeper
## 7 CU        2023   148 Curveball
## 8 KC        2023    26 Knuckle Curve
## 9 FS        2023    25 Splitter
## 10 SV       2023    17 Slurve
## # i 16 more rows
```

The pitch that Seiya Suzuki saw the most was the same between 2023 and 2024 - the four-seam fastball. In 2023 he saw 682 of them, and in 2024 he saw 781, a very noticeable uptick in usage by opposing pitchers.

Scenario 2: Suzuki's Exit Velo and Launch Angle

Table 1: Summary of Batted Ball Events (2023 & 2024)

seaso				
n	events	avg_exit_velo	avg_launch_angle	count
2023	field_out	88.4	15.4	209
2023	single	93.0	-0.3	89
2023	double	96.5	17.8	31
2023	home_run	105.2	27.8	20
2023	force_out	90.4	-7.7	15
2023	grounded_into_double_play	93.0	-6.2	8
2023	sac_fly	93.7	26.3	7
2023	triple	103.2	17.3	6
2023	field_error	82.0	-36.7	3
2023	double_play	109.0	6.0	1
2023	fielders_choice	92.4	-25.0	1
2023	fielders_choice_out	59.6	-60.0	1
2024	field_out	88.7	22.5	187
2024	single	92.6	7.8	90
2024	double	100.2	12.2	27
2024	home_run	105.7	26.9	21
2024	force_out	88.0	-6.4	9
2024	grounded_into_double_play	90.4	-10.0	6
2024	triple	101.8	19.8	6
2024	fielders_choice	85.3	-6.5	4
2024	sac_fly	91.2	27.0	4
2024	fielders_choice_out	60.1	-58.0	1

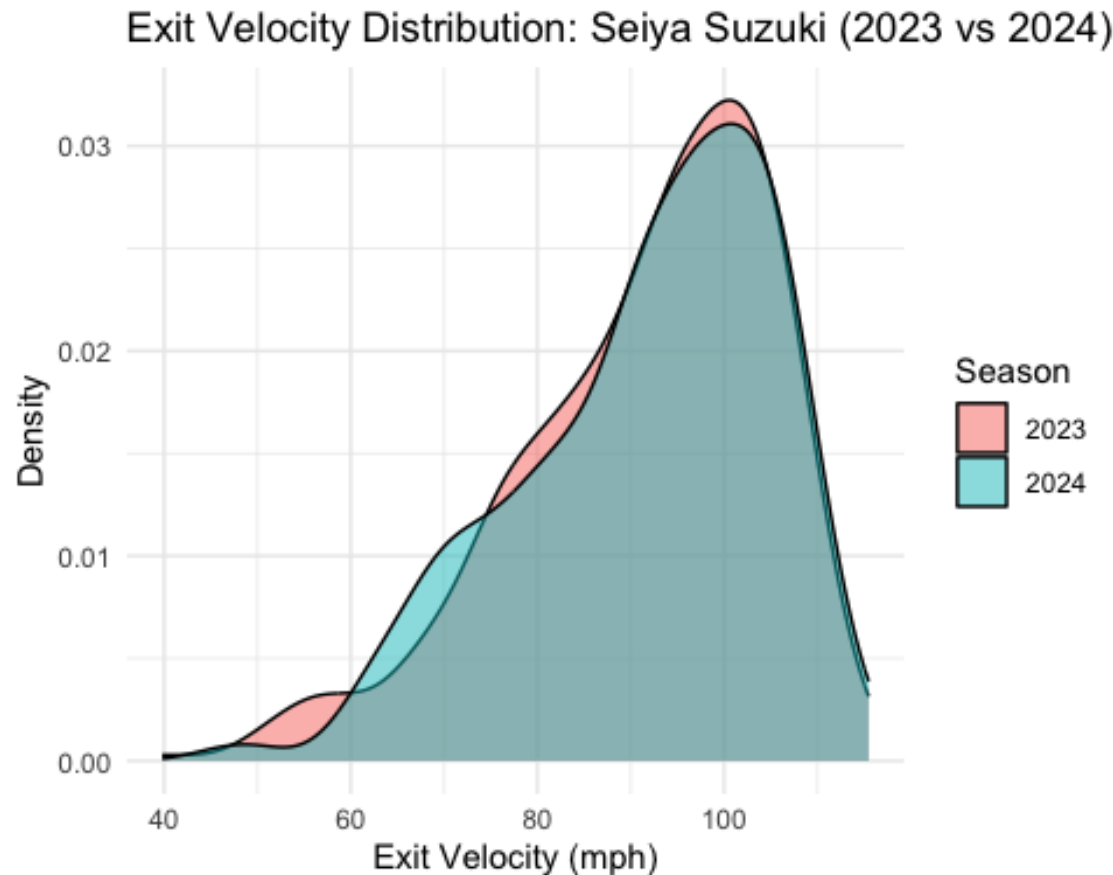
```
## # A tibble: 2 × 5
## # Groups:   season [2]
##   season events      avg_exit_velo avg_launch_angle count
##   <int> <chr>          <dbl>          <dbl> <int>
## 1  2023 field_out      88.4           15.4    209
## 2  2024 field_out      88.7           22.5    187
```

In 2023 the most common event for Suzuki was a field_out, which he recorded 209 times. Similarly, in 2024 the most common event was a field_out, but was only recorded 187 times.

```
## # A tibble: 2 × 4
## # Groups:   season [2]
##   season events      avg_exit_velo count
##   <int> <chr>          <dbl> <int>
```

##	1	2023 double_play	109	1
##	2	2024 home_run	106.	21

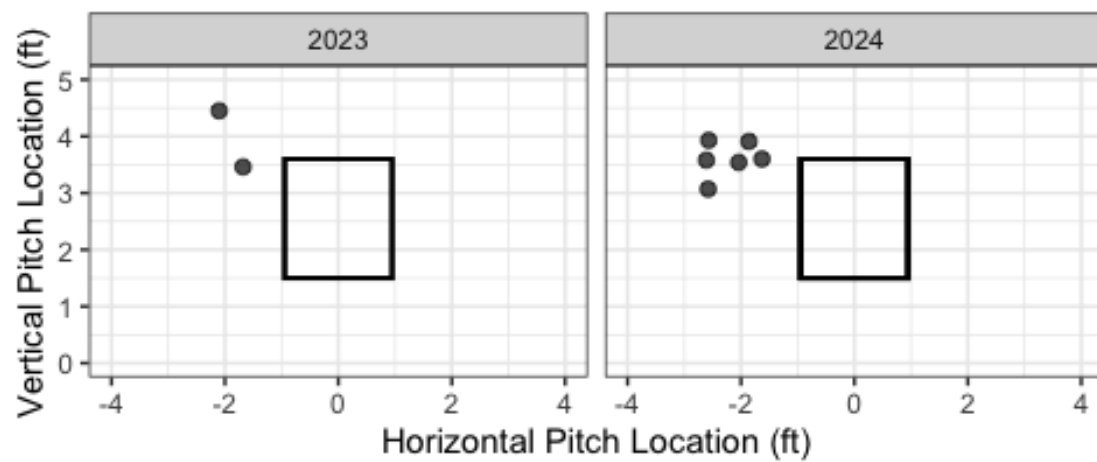
Oddly enough, in 2023 the event with the highest average velocity was the double play, but upon looking into the data that's because he only had one. But that is one hard hit double play! In 2024, a little more on par with what you would expect, the event with the highest average exit velocity was the homerun, which he had 21 of.



The above density plot displays the distribution of Seiya Suzuki's batted balls between his 2023 and 2024 seasons.

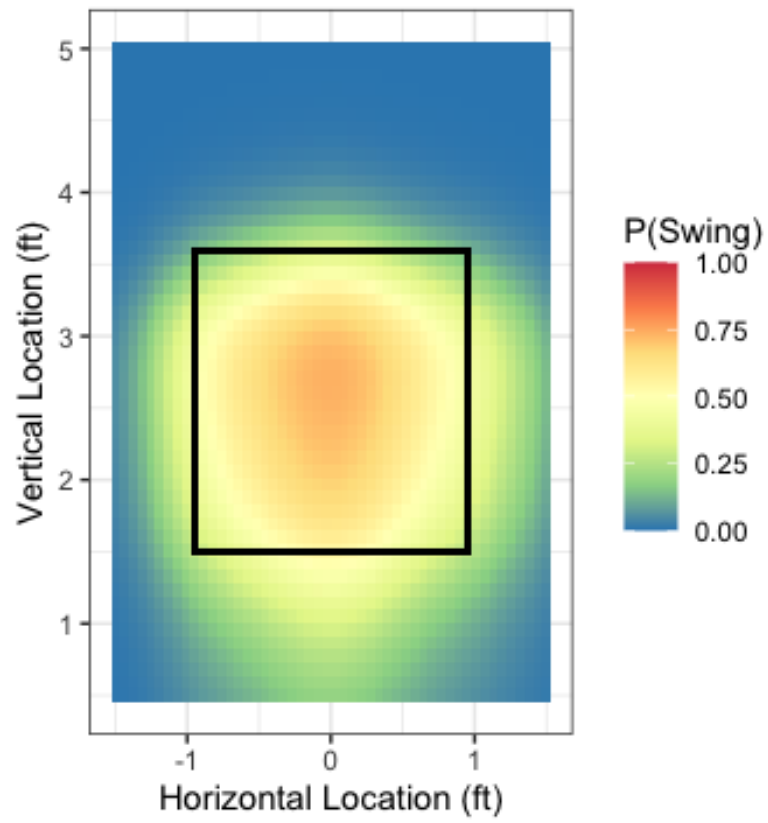
Scenario 3: Swing Probabilities

Hit-by-Pitch Locations for Seiya Suzuki (2023 vs 2024)

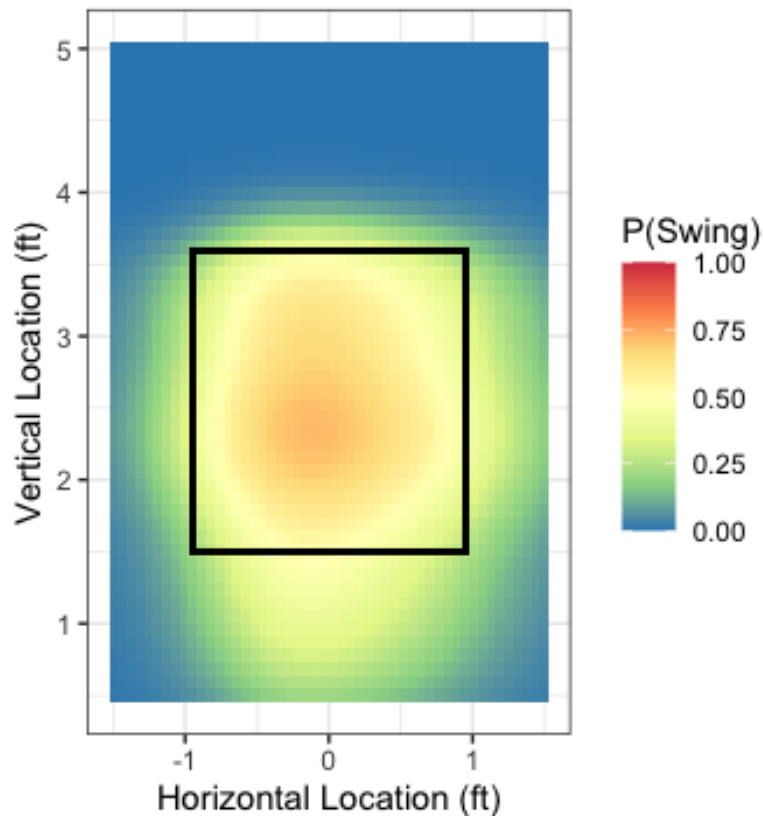


The above graphic shows the pitches that Seiya was hit by in the 2023 and 2024 seasons.

When Does Seiya Suzuki Swing? (2023)

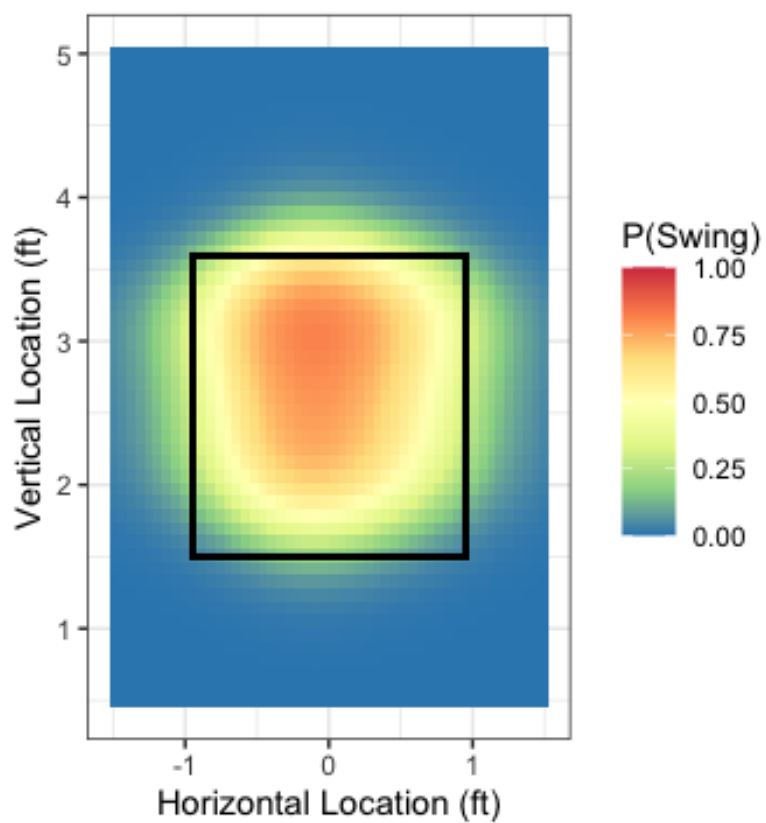


When Does Seiya Suzuki Swing? (2024)

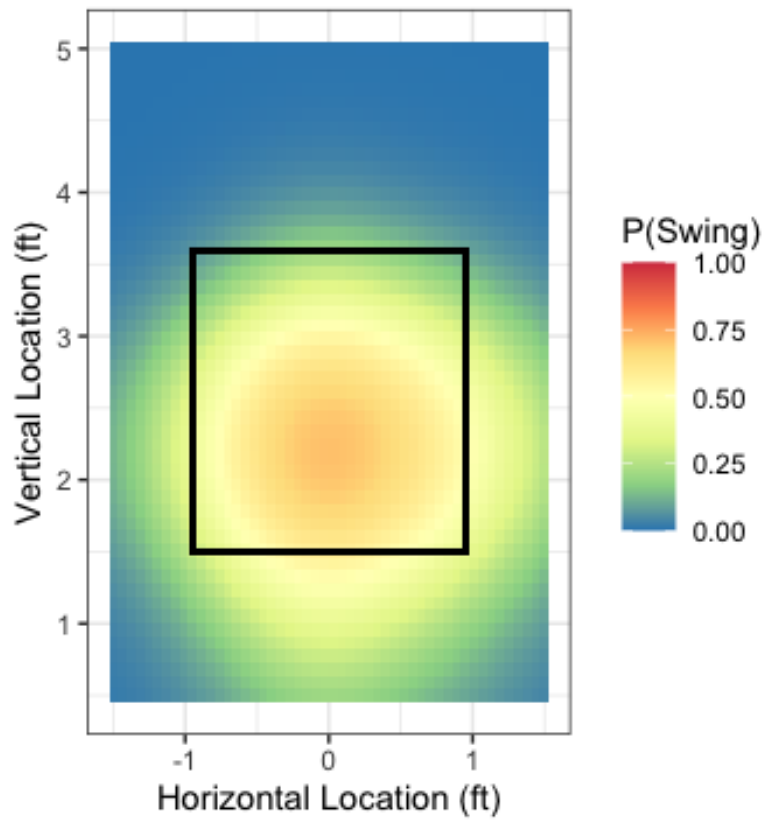


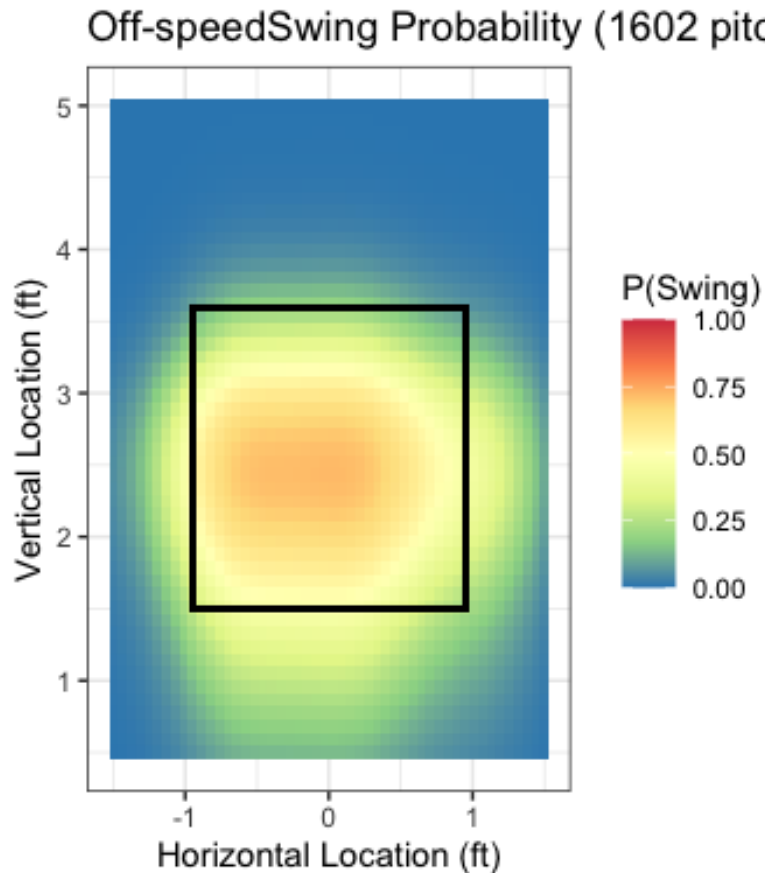
By looking at the two heat maps from 2023 and 2024, it is apparent that in 2024, Suzuki expanded his swing zone, particularly in the lower part of the strike zone and slightly below the strike zone. Compared to 2023, he primarily swung at pitches in the heart of the plate, and was less aggressive on pitches out of the zone, specifically towards the lower portion of the zone. The 2024 heat map suggests that he had increased aggressiveness or had lessened pitch recognition on low pitches. This shift suggests that more pitchers are targeting low-of-the-zone pitches to try and put Suzuki away, get him to expand the zone for them, or keep the ball on the ground and out of the air.

FastballSwing Probability (1466 pitches)



Breaking Ball Swing Probability (1465 pitches)





The three heat maps reveal key difference in Suzuki's swing behavior across the three pitch group types. Suzuki targets fastballs in the zone, as seen by the heavily orange middle and upper region of the fastball heat map. This suggests he is very confident in attacking fastballs that find their way into the zone. On breaking balls, his zone is slightly more concentrated and looks to hit pitches lower in the zone and even low of the zone. This could reflect a more selective approach towards these pitches, with pitchers attempting to get him to chase low with their breaking stuff. Lastly, Suzuki looks middle in and low and in for off-speed pitches. Once again, his probability of swinging at an offspeed pitch low of the zone is higher than one may want, but shows that he sees the ball low. Overall, 5 Seiya likes fastballs and keeps his eyes towards the bottom of the zone.