Estimating the Maximal Speed of Soccer Players on Scale

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Physical Properties

Sensitive Information

On Scale

20+ players

15000+ players

~15 teams

50+ competitions

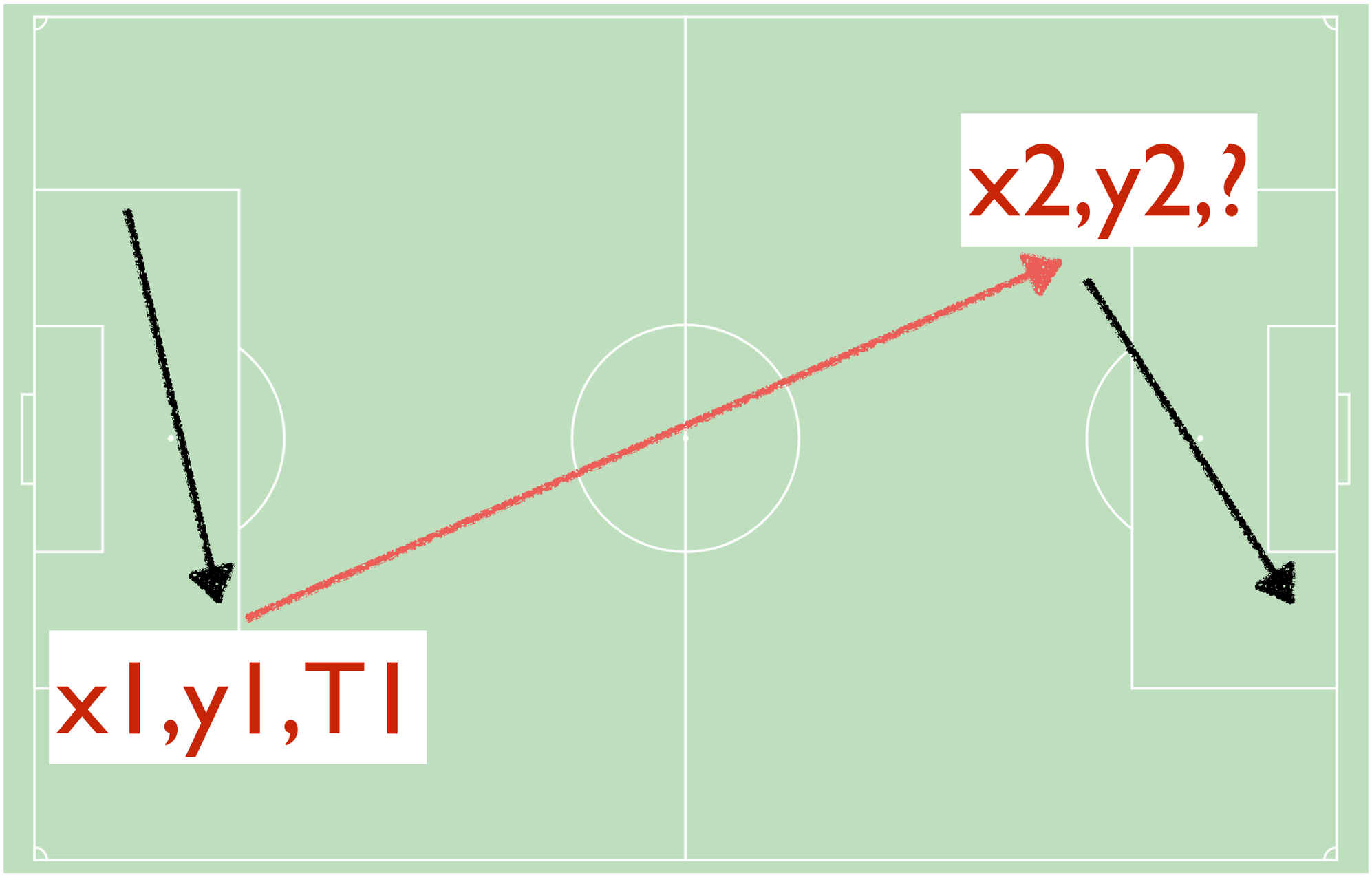
Dataset

- Event-based data by Opta
- 2012/13 season of Spain's La Liga
- all events with (x,y) coordinates
- time precision: 1 sec

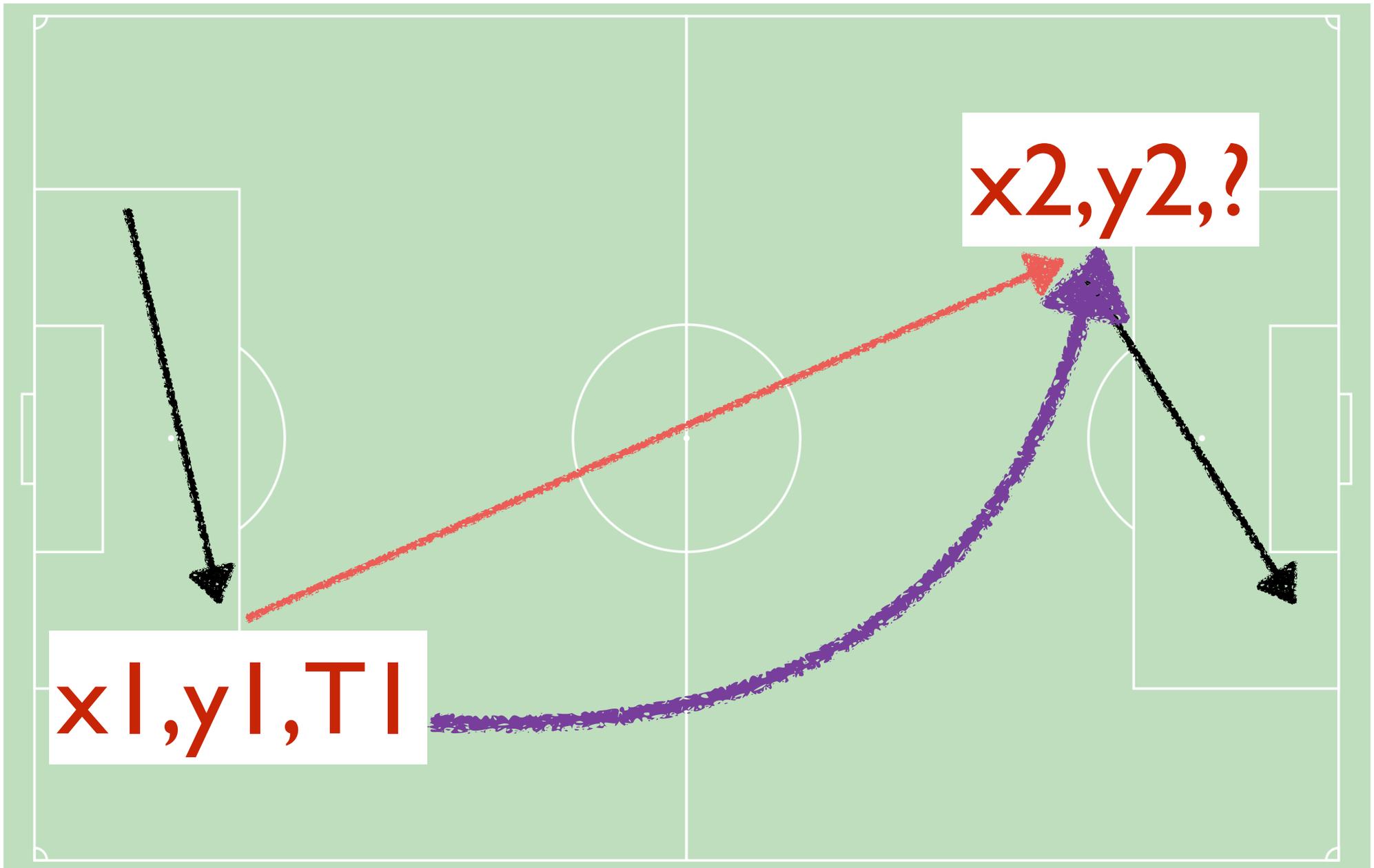
Methodology

- Quantile Regression: distance vs. minimal time required
  - 0.05 quantile
  - Diverse field sizes
  - Missing timestamps of pass reception
  - Evaluation: consistency of parameters

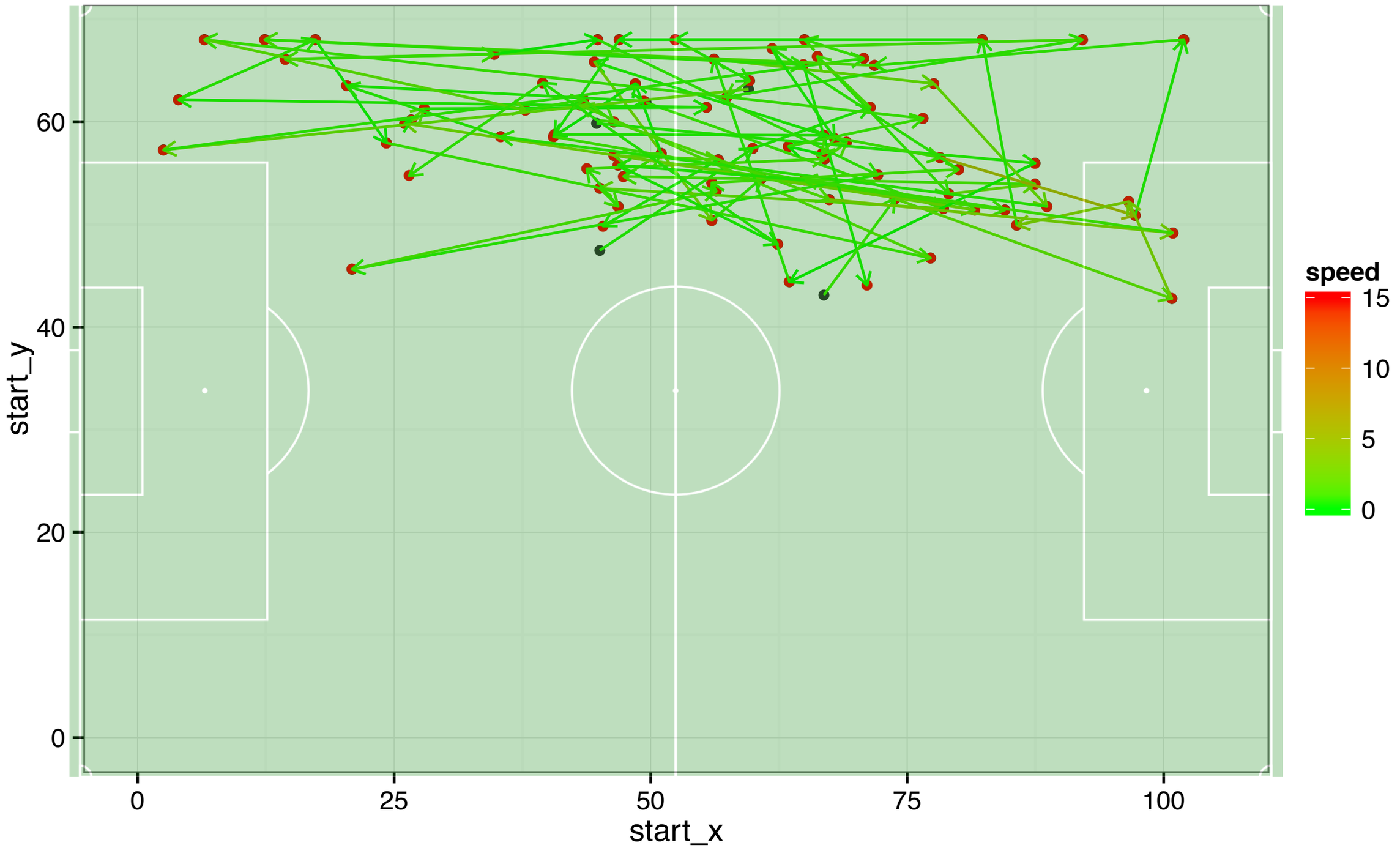
Handling passes



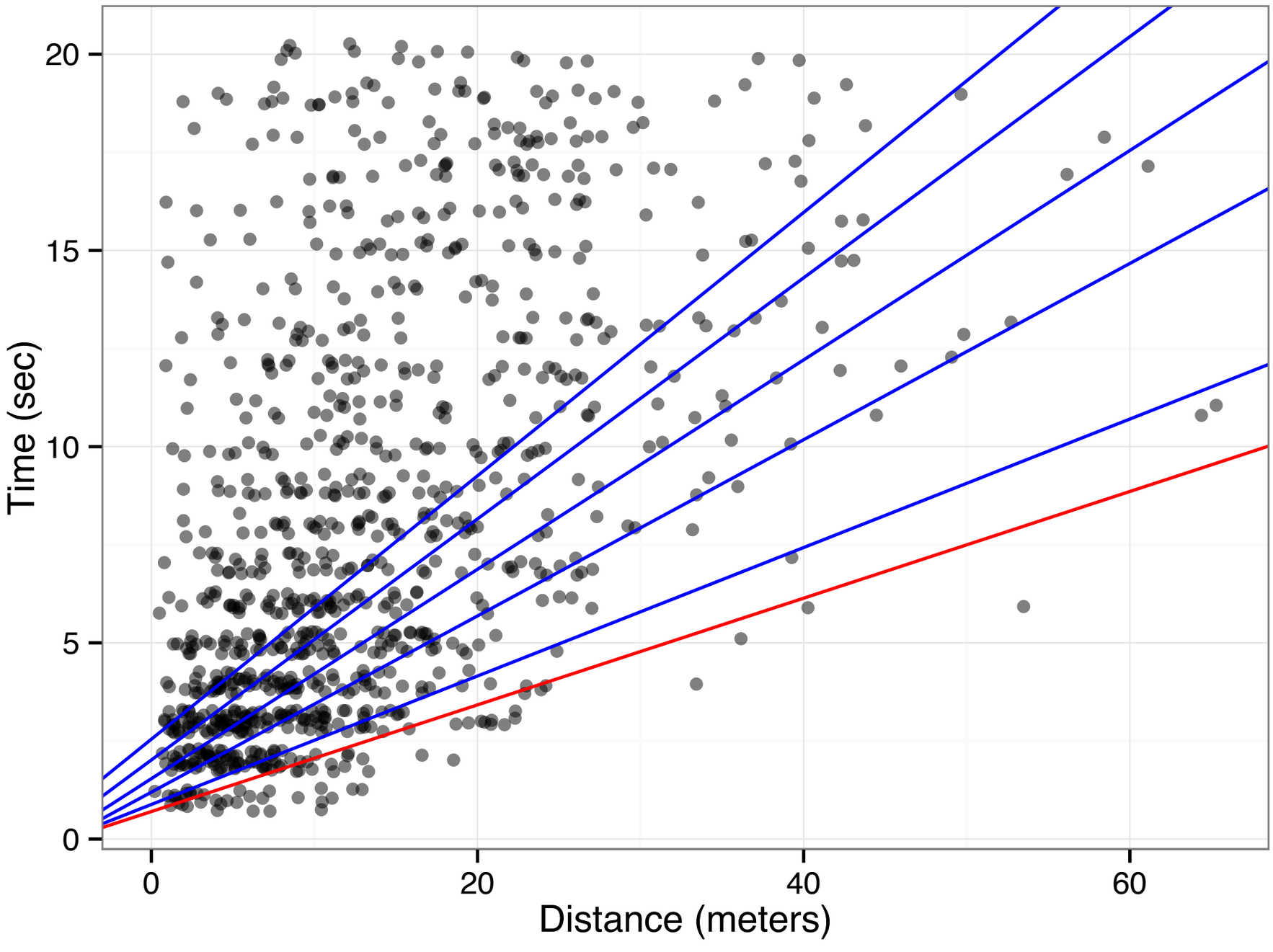
Handling passes



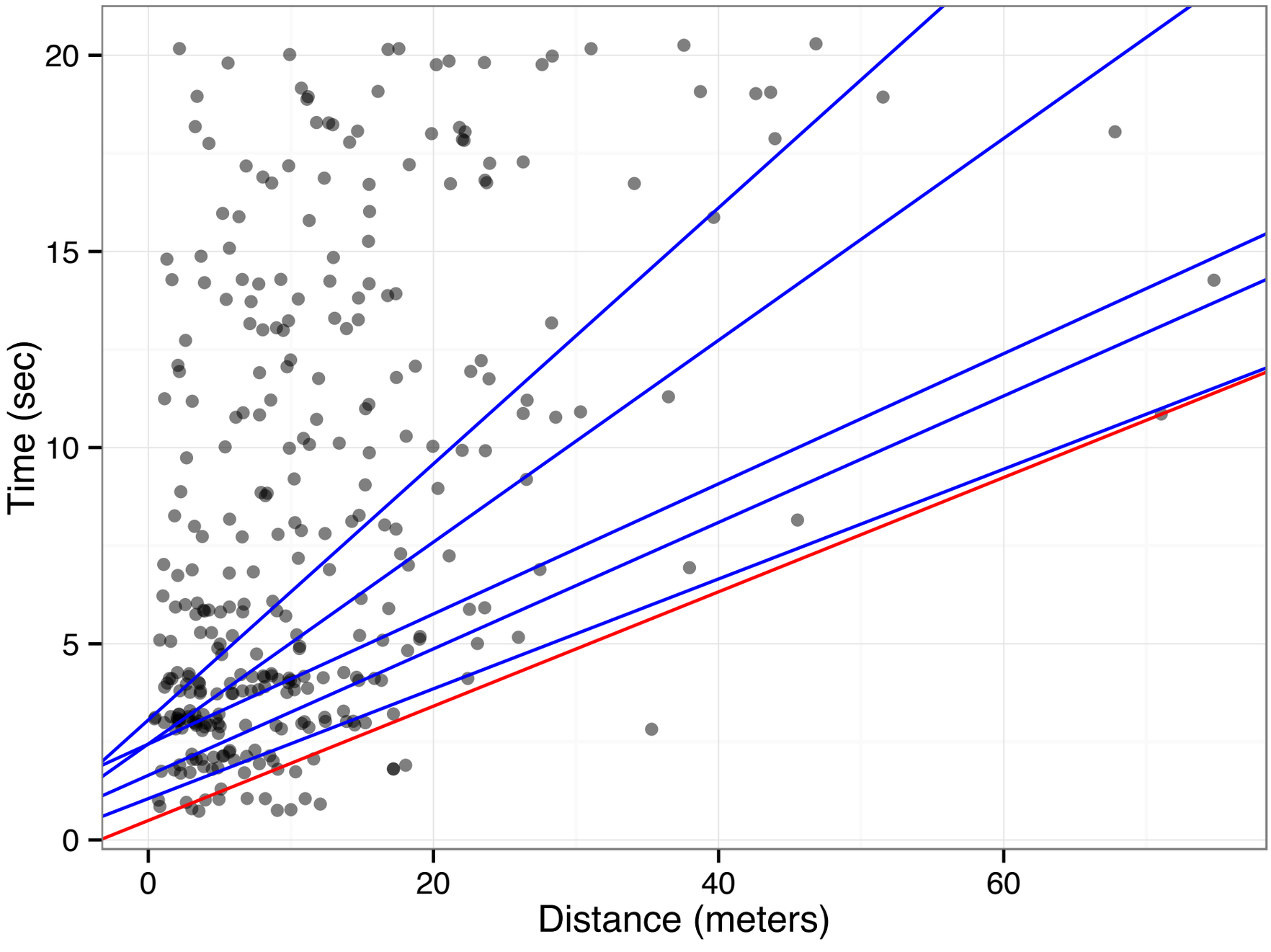
In-game Movements



In-game Speed Profile

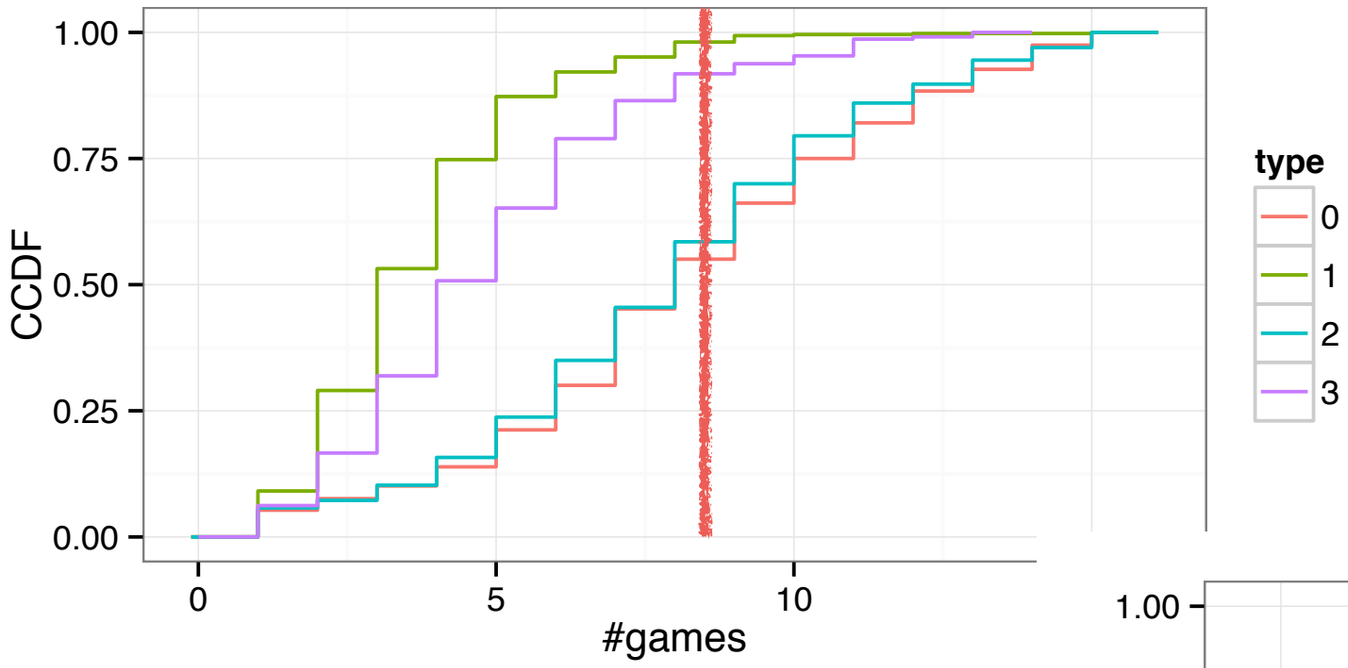


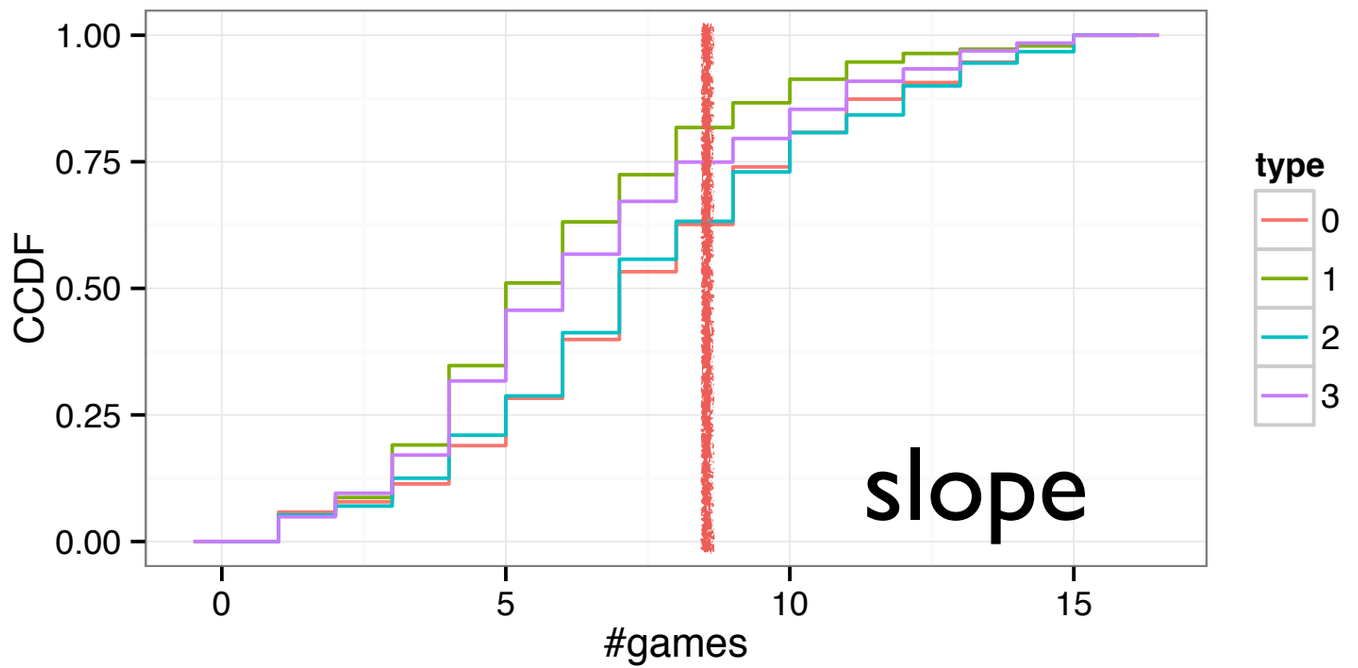
In-game Speed Profile



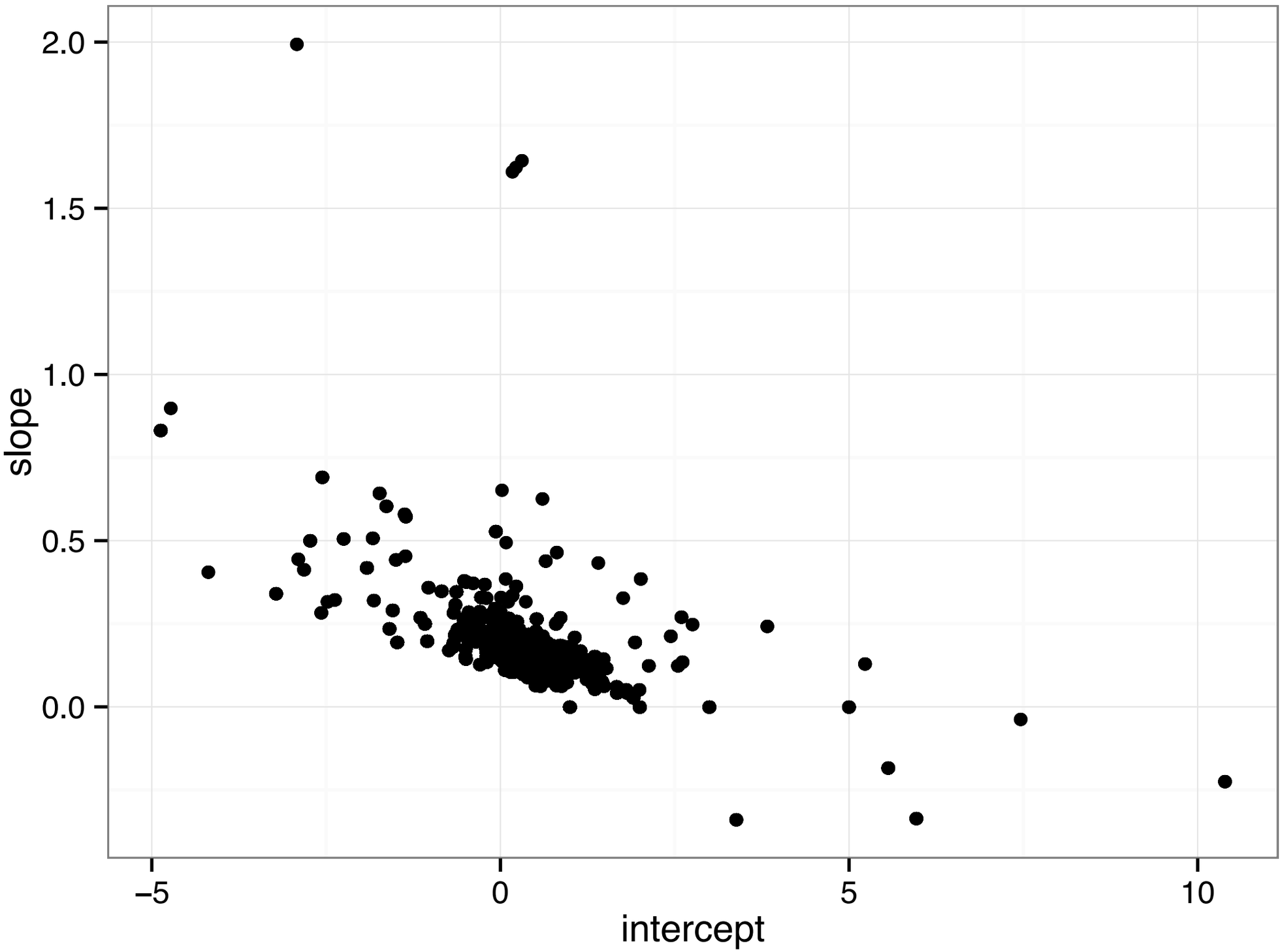
8 games to profile a player

intercept





Player Scouting



Summary

- Methodology to profile the speed of the players
- In-game movements
- On scale
- 8 games to characterize a player
- Application: player scouting

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UJPEST FC
otpbank
Das Auto

Backup

Team	intercept #0	#1	#2	#3	slope #0	#1	#2	#3
Athletic Bilbao	8.1	3.1	7.6	4.0	7.9	5.7	7.2	5.5
Atletico Madrid	7.7	3.2	6.8	4.1	7.3	5.5	6.4	5.0
Barcelona	6.1	2.8	7.0	3.6	6.5	5.2	7.7	5.5
Celta de Vigo	7.4	2.6	7.9	4.2	7.0	6.0	6.8	6.2
Deportivo La Coruna	8.6	3.5	8.1	4.2	7.6	5.7	7.8	6.4
Espanyol	10.1	4.4	9.8	5.8	8.0	6.1	8.7	8.3
Getafe	8.0	4.6	8.4	5.8	7.3	8.0	8.5	7.9
Granada CF	9.3	3.7	9.2	5.5	8.3	6.5	8.3	7.0
Levante	8.8	4.4	8.3	6.3	8.2	5.6	7.8	6.9
Mallorca	9.2	4.1	7.9	6.1	9.2	6.4	8.2	7.5
Malaga	8.1	3.3	8.4	4.6	6.9	5.4	7.5	6.7
Osasuna	8.0	3.6	7.3	5.3	8.0	5.8	8.0	6.5
Rayo Vallecano	7.2	4.4	6.9	4.5	6.6	7.3	6.5	6.0
Real Betis	8.5	3.4	7.8	4.8	8.0	5.2	6.8	5.5
Real Madrid	7.3	3.2	7.3	4.2	6.8	5.3	7.1	6.1
Real Sociedad	9.2	2.5	8.4	4.1	7.7	5.6	7.1	6.3
Real Valladolid	9.0	3.6	8.4	5.3	7.4	6.2	7.5	7.6
Real Zaragoza	6.4	4.2	6.3	4.9	5.6	6.4	6.1	6.1
Sevilla	7.8	4.3	7.5	4.4	7.3	6.2	8.2	5.9
Valencia	8.8	3.6	8.0	5.7	9.0	5.7	8.3	7.3