$x = (P_x, P_y, V_x, V_y)$

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* when the position is constant (i.e P_x, P_y)

→ The Variables of 'P' matrix corresponds to P_x, P_y quickly decreases at each time step { (0.018833, 0.02412) → (2.029×10^{-6}, 5.5429×10^{-7}) }.

→ The Variables of 'P' matrix corresponds to V_x, V_y Very Gradually decreases at each time step { (0.7941, 0.2888) → (0.01989, 0.061406) }

→ Value of 'Q' is Zero (Zero matrix)

* when the Velocity is constant (i.e. V_x, V_y)

→ The Variables of 'P' matrix corresponds to P_x & P_y quickly decreases at each time step { (0.018, 0.064) → (5.48×10^{-5}, 5.450×10^{-5}) }.

→ The Variables of 'P' matrix corresponds to V_x, V_y Gradually decreases at each time step. { (0.794, 0.288) → (0.00622, 0.00606) }.

→ Value of 'Q' matrix is Zero matrix.

I have 500 Samples

case 1: 'Px' Constant.
→ for 0 - 50 Samples, Kept Px, ρ x Cos(ψ) Constant.

Case 2: 'Py' Constant
→ for 50 - 100 Samples, Kept Py, ρ x Sin(ψ) Constant.

Case 3: 'Vx' Constant
→ for 101 - 150 Samples, Kept ρ̇ x Cos(ψ) Constant.

Case 4: 'Vy' Constant
→ for 151 - 200 Samples, Kept ρ̇ x Sin(ψ) Constant.

Case 5: Px, Py, Vx, Vy changing
→ for 201 → 500 all Variables are varying.

* When P_x is ~~changing~~ constant
→ The variables of 'p' matrix corresponding to P_x, P_y, V_x, & V_y gradually decreasing at each time step.

→ Value of 'φ' matrix is zero

* When P_y is constant
→ Same results as above

* When V_x is Constant.
→ Same results as above

* When V_y is constant
→ Same results.

* When (P_x, V_x) is constant
→ Same results.

* When (P_y, V_y) is constant
→ Same results

* When P_x, V_x, P_y, V_y is changing.
→ Values of 'p' matrix goes on reducing, but at some point (fig: road is curvy) suddenly values increases & again starts decreasing

→ Values of φ matrix is constant (in this case not zero)