## 1 Study 2

Single particle Positions

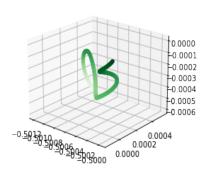


Figure 1: position

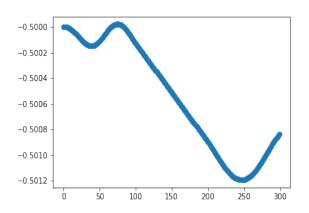


Figure 2: x-component of position

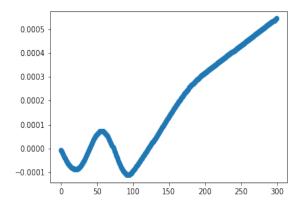


Figure 3: y-component of position

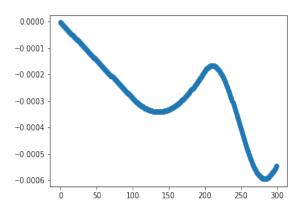


Figure 4: z-component of position

Velocity

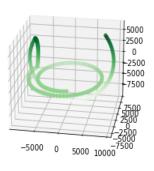


Figure 5: velocity

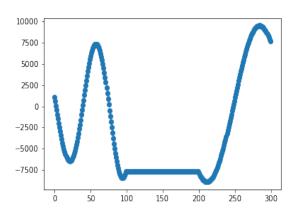


Figure 6: x-component of velocity

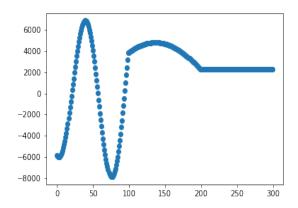


Figure 7: y-component of velocity

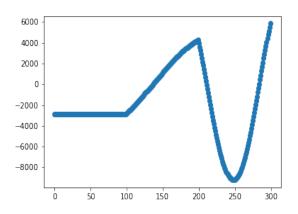


Figure 8: z-component of velocity

Multipartilees Positions

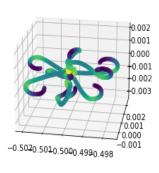


Figure 9: positions

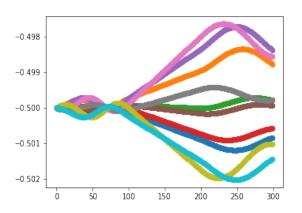


Figure 10: x-component of positions

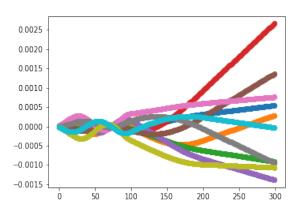


Figure 11: y-component of positions

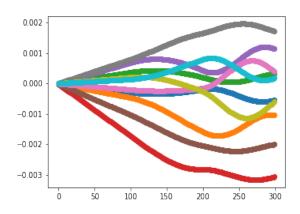


Figure 12: z-component of positions

Velocities

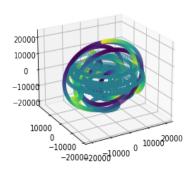


Figure 13: velocities

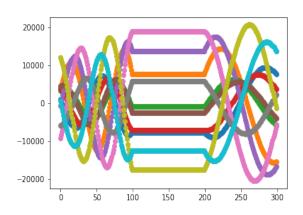


Figure 14: x-component of velocities

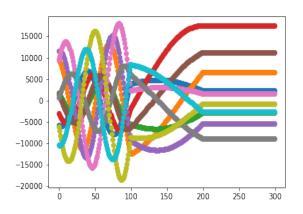


Figure 15: y-component of velocities

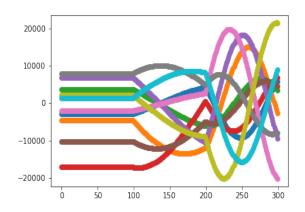


Figure 16: z-component of velocities

## 2 Study 3

Single particle Positions

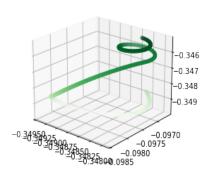


Figure 17: position

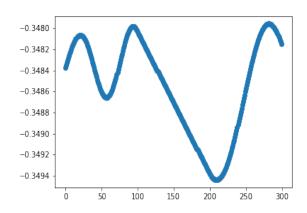


Figure 18: x-component of position

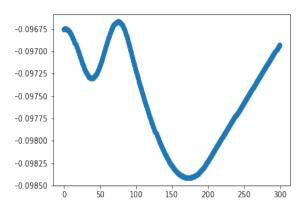


Figure 19: y-component of position

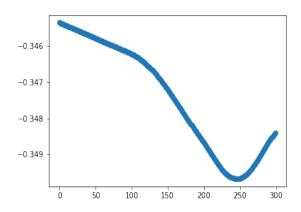


Figure 20: z-component of position

Velocity

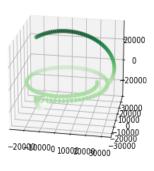


Figure 21: velocity

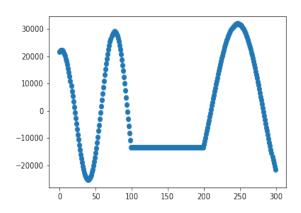


Figure 22: x-component of velocity

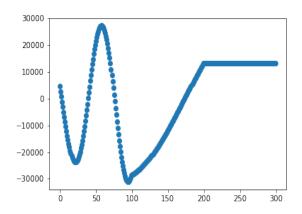


Figure 23: y-component of velocity

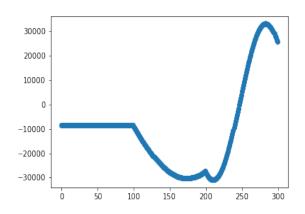


Figure 24: z-component of velocity

Multipartilees Positions

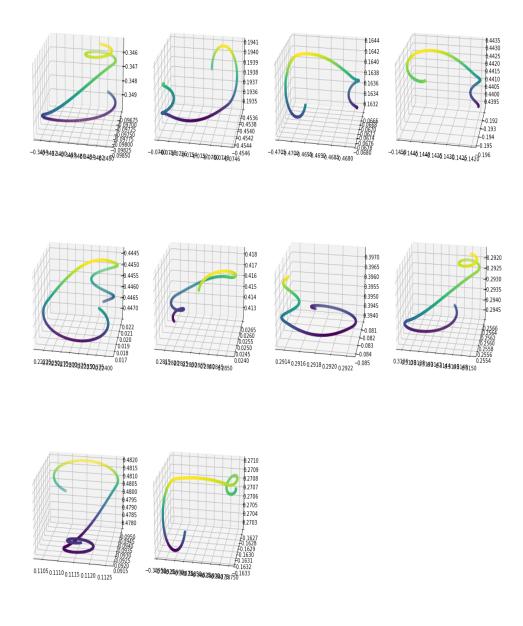


Figure 25: positions

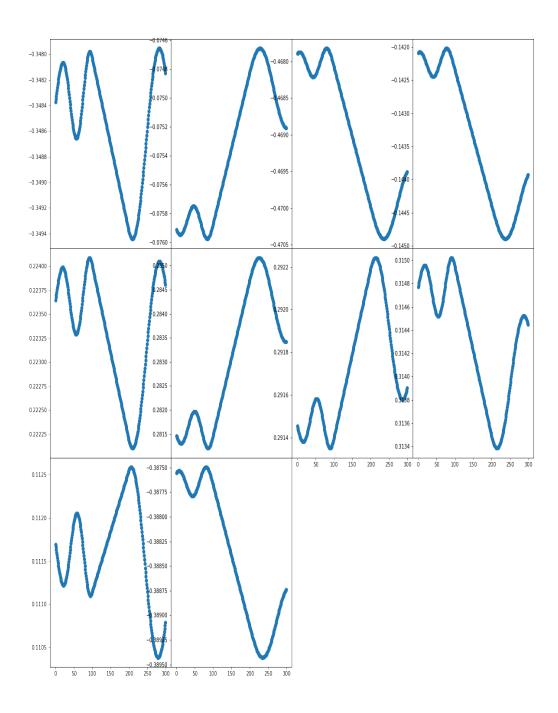


Figure 26: x-components of positions

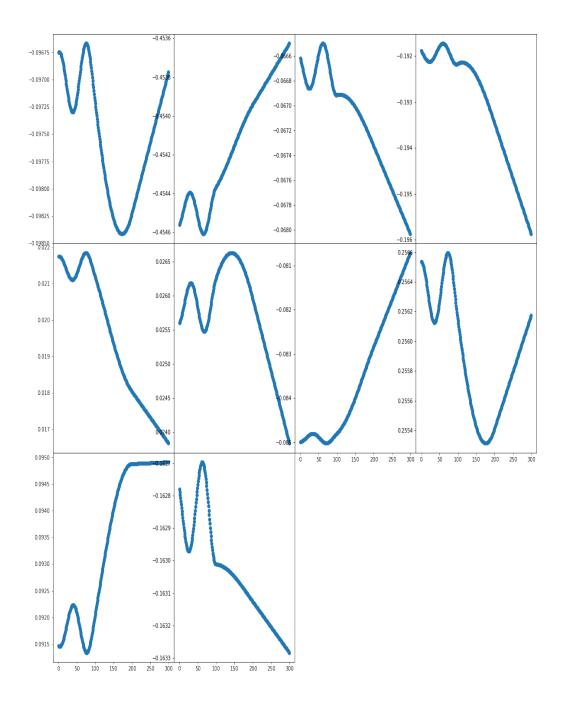


Figure 27: y-components of positions

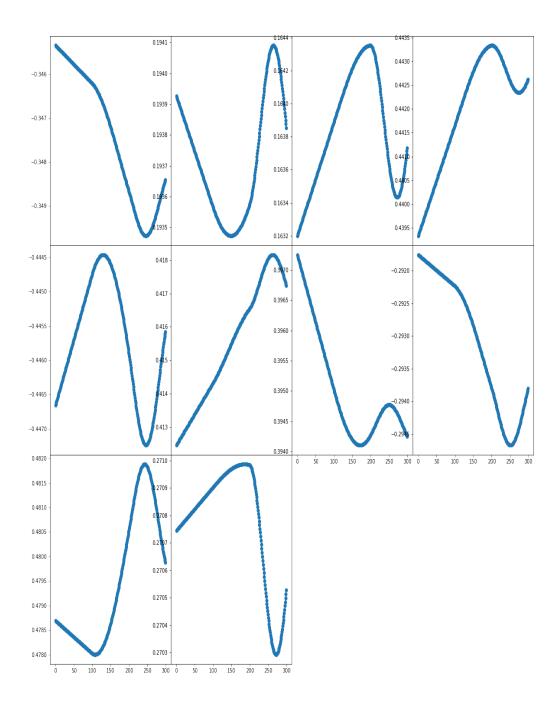


Figure 28: z-components of positions

Velocities

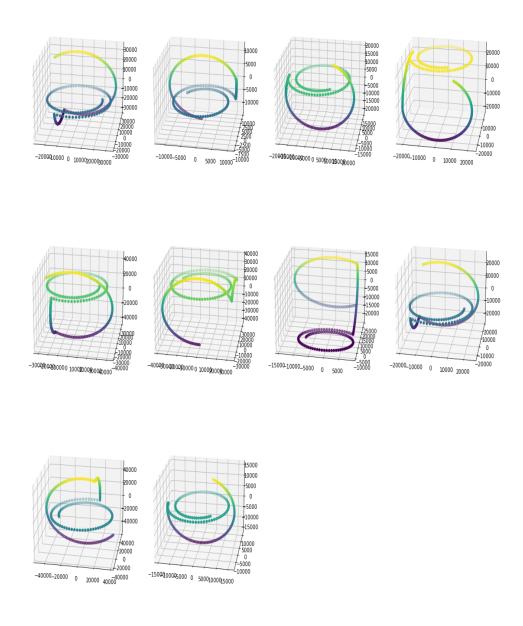


Figure 29: velocities

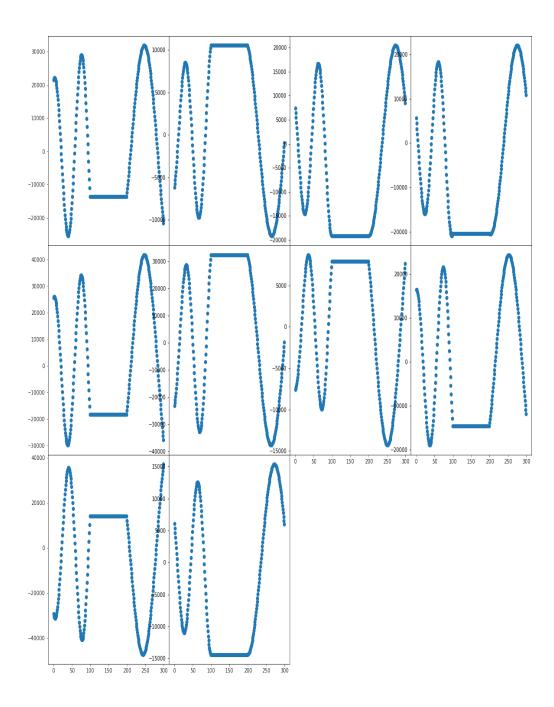


Figure 30: x-components of velocities

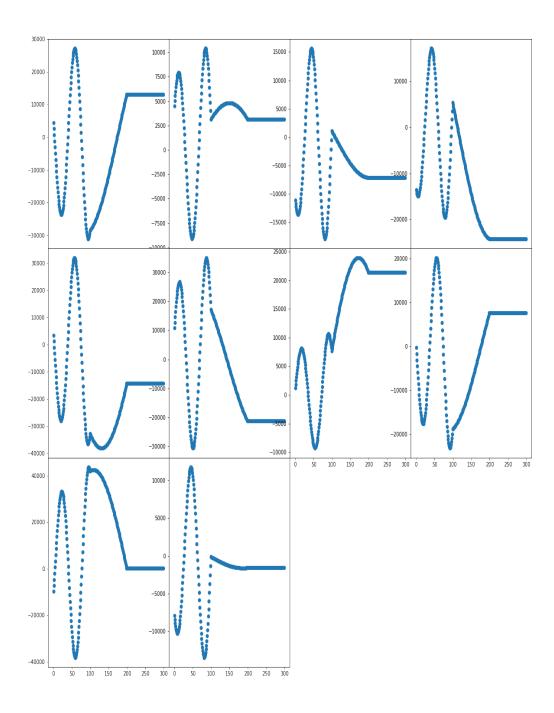


Figure 31: y-components of velocities

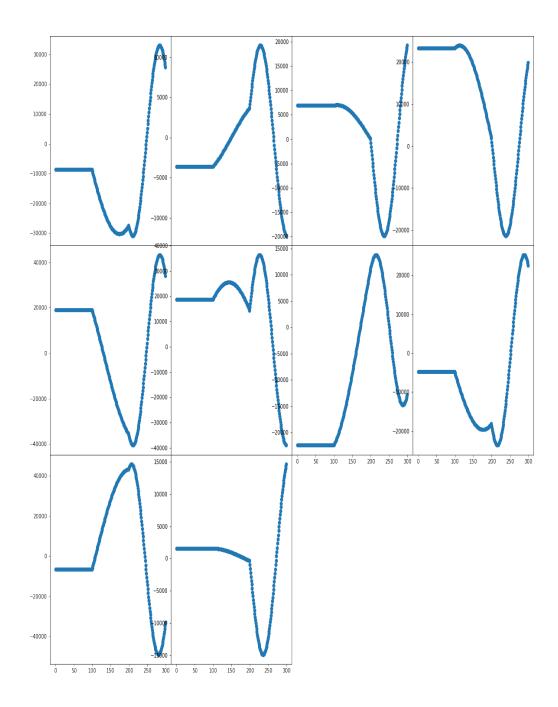


Figure 32: z-components of velocities

## References

[1] Florian LB (GitHub user). Charged Particle Trajectories in Electric and Magnetic Fields. Thu, 28 Jan 2016. https://flothesof.github.io/charged-particle-trajectories-E-and-B-fields.html