A screenshot of a computer

Description automatically generated

* Add noise directly to ode
* rel\_velocity = xdot + random\_vertical\_velocity(amplitude=1)
* if xdot > 0:
* xddot = (-m \* g + Density(x) \* V \* g) / (m + m\_air) - 0.5 \* Density(x) \* rel\_velocity\*\*2 \* A \* Cd  / (m + m\_air)

A graph with blue lines and red lines

Description automatically generated

A graph of a graph

Description automatically generated with medium confidence

rel\_velocity = xdot + 0

    if xdot > 0:

        xddot = (-m \* g + Density(x) \* V \* g) / (m + m\_air) - 0.5 \* Density(x) \* rel\_velocity\*\*2 \* A \* (Cd+random\_vertical\_velocity (amplitude= 0.2))  / (m + m\_air)

    else:

        xddot = (-m \* g + Density(x) \* V \* g) / (m + m\_air) + 0.5 \* Density(x) \* xdot\*\*2 \* A \* Cd / (m + m\_air)