

## GOLD Model Prediction

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### Final Distance:

Downrange Distance (x-direction): 51.6388 m

Crossrange Distance (y-direction): -0.5347 m

### Variables With Uncertainty:

Air density:  $1.17358 \pm 0.05 \text{ kg/m}^3$

Air pressure:  $99640 \pm 500 \text{ pa}$

Air temperature:  $295.15 \pm 1 \text{ k}$

Coefficient of drag:  $0.327 \pm 0.004$

Gage pressure:  $40.5 \pm 0.5 \text{ psi}$

Mass of water:  $993 \pm 0.5 \text{ g}$

Launch angle:  $45 \pm 0.1 \text{ degrees}$

Launch heading:  $0 \pm 1.5 \text{ degrees}$

Wind heading:  $67.5 \pm 11.25 \text{ degrees}$

Wind magnitude (ground):  $0 \pm 0.2235 \text{ m/s}$

Wind magnitude (aloft):  $0.44704 \pm 0.2235 \text{ m/s}$

