

DS 2001

Social Science Practicum

September 11, 2001

DS 2001

Physics

~~Social Science~~ Practicum

September 11, 2001

- Piazza
- Office hours

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if you need an answer

Note

*if you **don't** need an answer*

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Social Science

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hw1

hw2

hw3

hw4

hw5

hw6

hw7

hw8

hw9

hw10

project

exam

logistics

other

reading

health

Summary











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Office Hours

Section 1

Carolina Mattsson
Tuesdays 9:30–11:30
West Village H 164

Sarthak Bahndari
TBD

Section 2

Stefan McCabe
Tuesdays 3:00–5:00
1029I 177 Huntington
(email beforehand)

Romil Rathi
Mondays 2:00–4:00
WVH 3rd floor
Thursdays 5:00–7:00
KA 708

$$-u^2) \frac{\partial u}{\partial x} - uv \left(\frac{\partial u}{\partial y} + \frac{\partial v}{\partial x} \right) \\ + (a^2 - v^2) \frac{\partial v}{\partial y} + \frac{a^2}{\partial} v$$

THESE EQUATIONS

SPACE

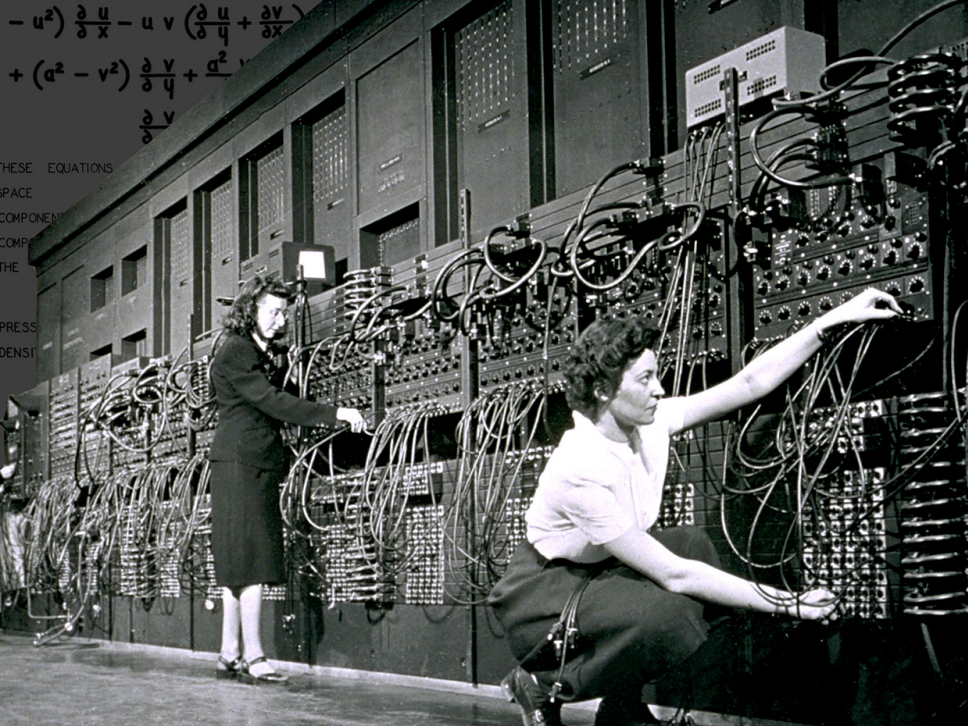
COMPONENTS

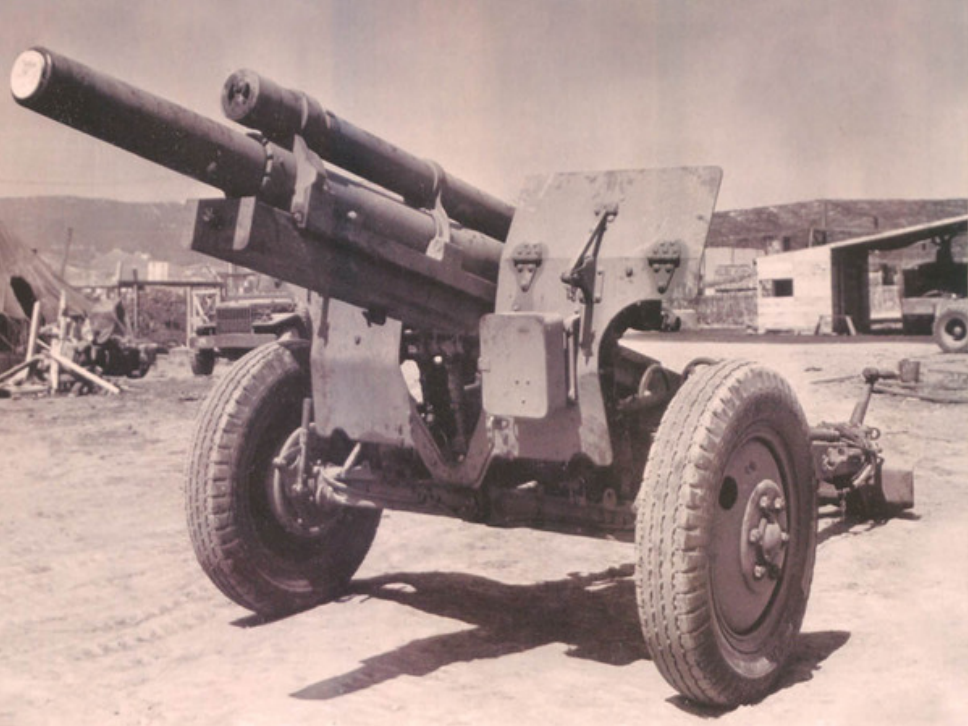
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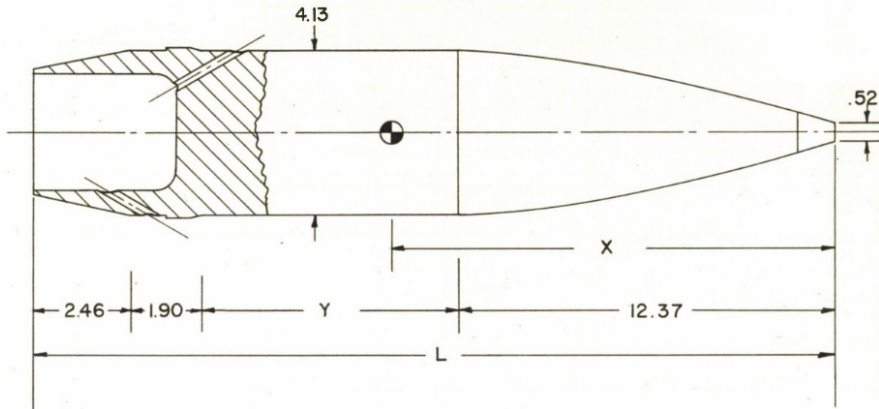
PRESS

DENSI





PHYSICAL PROPERTIES



TYPE	WT (LBS)	A (LBS-IN ²)	B (LBS-IN ²)	X CM(IN)	L (IN)	Y
1	29.07	72.60	919.0	13.78	23.22	6.49
2	28.76	71.40	892.0	13.59	23.00	6.27
3	29.20	72.60	885.7	13.45	22.84	6.11
4	29.08	72.27	861.0	13.29	22.63	5.90

ZERO-YAW DRAG COEFFICIENT
 VS
 MACH NUMBER

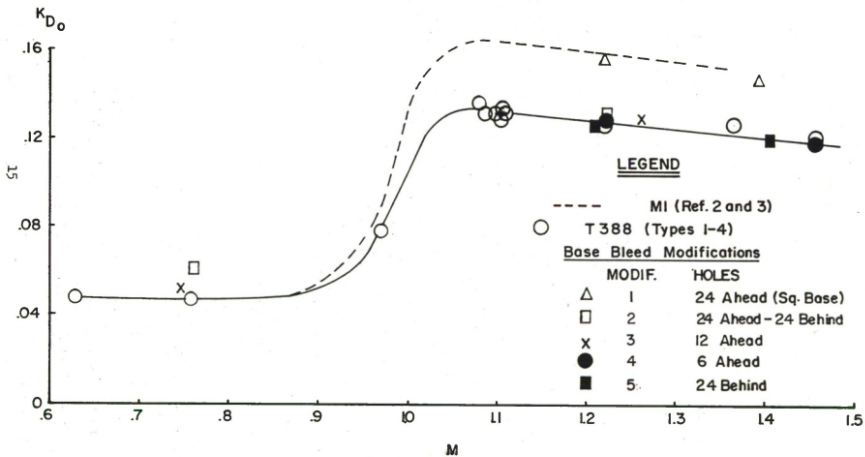


FIG. 2

Formulae and Constants

1 foot = 0.3048 meters

$$A = \pi \left(\frac{d}{2} \right)^2$$

$$v_t = \sqrt{\frac{2mg}{\rho A C_d}}$$

$$x_t = \frac{v_t}{g} (v_i \cos(\theta)) \left(1 - e^{-\frac{gt}{v_t}} \right)$$

$$y_t = \frac{v_t}{g} (v_i \sin(\theta) + v_t) \left(1 - e^{-\frac{gt}{v_t}} \right) - v_t t$$

$$v_i = 875 \text{ ft/s}$$

$$\pi = 3.1415926536$$

$$d = 105 \text{ mm}$$

$$m = 13.19 \text{ kg}$$

$$C_d = 0.0494$$

$$e = 2.718281828$$

$$\rho = 1.225 \text{ kg/m}^3$$

$$g = 9.8 \text{ m/s}^2$$