

ALPHA PARTICLE RANGE & ENERGY LOSS

DBP

ADDITIONAL DATA

PRESSURE TRANSDUCER CALIBRATION

$$\left\{ \begin{array}{l} P_{\text{ATM}} = 768.7 \text{ mm Hg}, 20^{\circ}\text{C} \text{ ON 3 DEC 2020} \\ V_{\text{ATM}} = 5.070 \text{ V} \end{array} \right.$$

$$\left\{ \begin{array}{l} P_{\text{VACUUM}} = 0 \text{ (DEFINED)} \\ V_{\text{VACUUM}} = -0.024 \text{ V} \end{array} \right.$$

DATA SETS

MCA COUNTING TIME = 300 s REAL TIME

$\left. \begin{array}{l} \text{N2_data.csv} \\ \text{Ar_data.csv} \end{array} \right\}$ TAKEN DEC 2019

FOR THESE, SOURCE-DETECTOR DISTANCE = $43.0 \pm 0.5 \text{ mm}$
ROOM TEMPERATURE = 22°C

$\left. \begin{array}{l} \text{Air_data.csv} \\ \text{He_data.csv} \end{array} \right\}$ TAKEN DEC 2020

FOR THESE SOURCE-DETECTOR DISTANCE = 45.0 mm
ROOM TEMPERATURE = 20°C

ORTEC 575A GAIN = $4.90 \text{ (FINE)} \times 10 \text{ (COARSE)}$

DETECTOR BIAS VOLTAGE = $+35.00 \pm 0.01 \text{ V}$