

Geiger-Mueller Tube Experiment

- **1 Equip Preparation and Setup**
 - *Drawing*: a schematic of your setup
- **2 Pulse measurement directly from GM tube**
 - *Drawing or photo*: Drawing or photo of what pulses look like on the oscilloscope
 - *Plot*: pulse height v. HV on tube
 - *Interpretive comment*
- **3 Plateau Region**
 - *Plot*: count rate v. HV
 - *Interpretive comment*
 - *Plot*: Sample pulse height spectra v. HV
 - *Interpretive comment*
 - *Data*: statistics of peak in region of interest v. HV
 - *Interpretive comment*
 - *Data*: comparison of counts from mMCA and scaler
 - *Interpretive comment*
- **4 Breakdown Region**
 - *Plot*: Sample pulse height spectra v. HV as breakdown region is entered
 - *Interpretive comment*
- **5 Statistics of Counting**
 - *Plot*: distribution of counts and comparison with Gaussian
 - *Interpretive comment, including description of how Gaussian is obtained*
 - *Data*: data analysis with rms and chi-sq test results
 - *Interpretive comment*
 - *Data*: data with weak source and background
 - *Interpretive comment, with uncertainty propagation*
- **6 Dead Time**
 - *Plot*: Photo of pulses on o'scope with high count rate
 - *Interpretive comment, with dead-time estimate*
 - *Data*: dead-time data with two-source method
 - *Interpretive comment, including comparison between two estimates of dead time*
- **7 Source Type and Geometry**
 - *Plot*: Sample pulse height spectra v. increasing count rate
 - *Interpretive comment*