

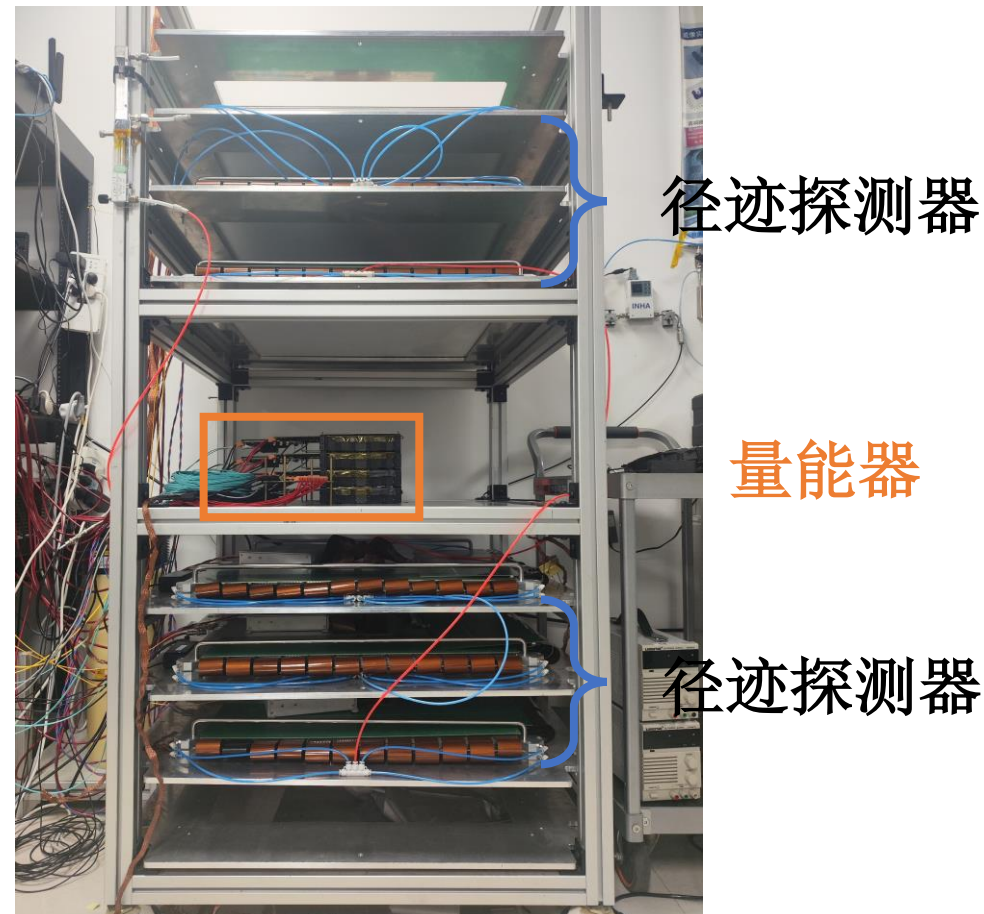
HEIC-Cube cosmic ray test

张研硕

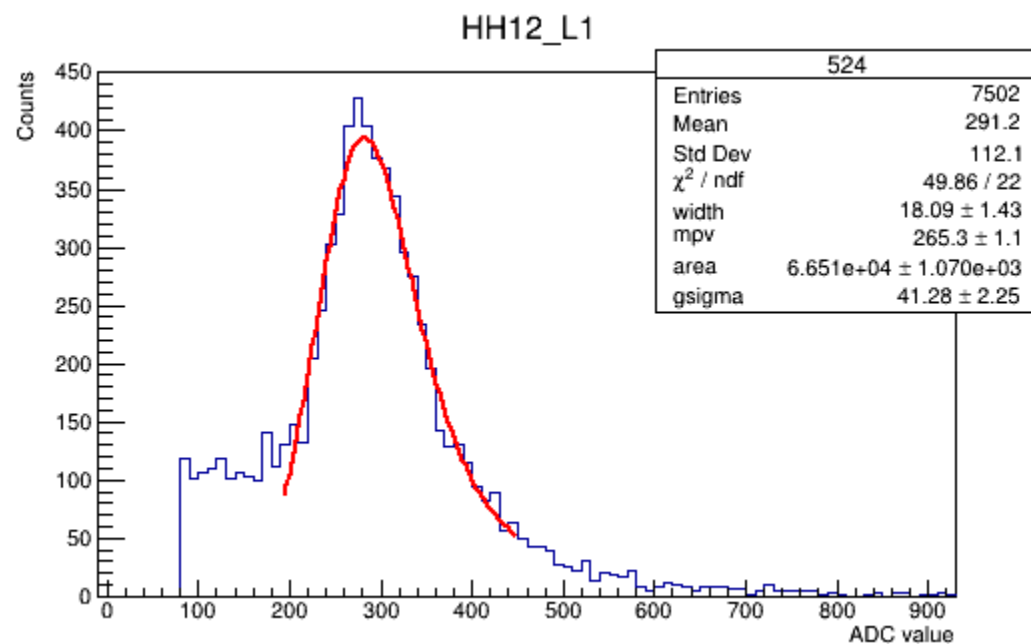
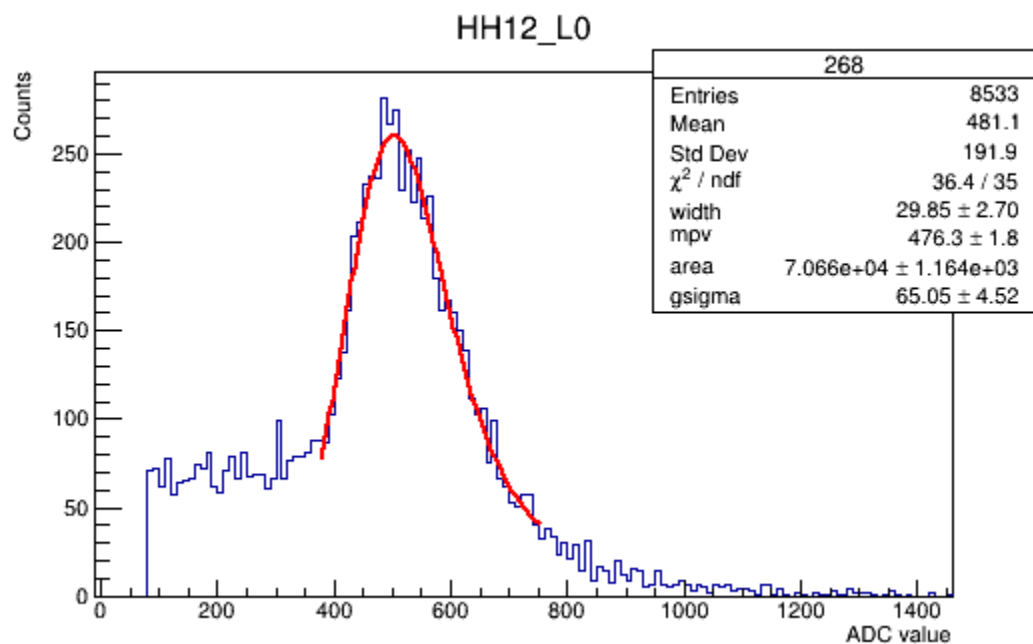
2026.07.09

结合径迹探测器的宇宙线测试

- 利用径迹探测器提供触发，结合量能器测试宇宙线；
- 测试时间05.07-05.21，在每个晶体上获得~8000个有效事例；

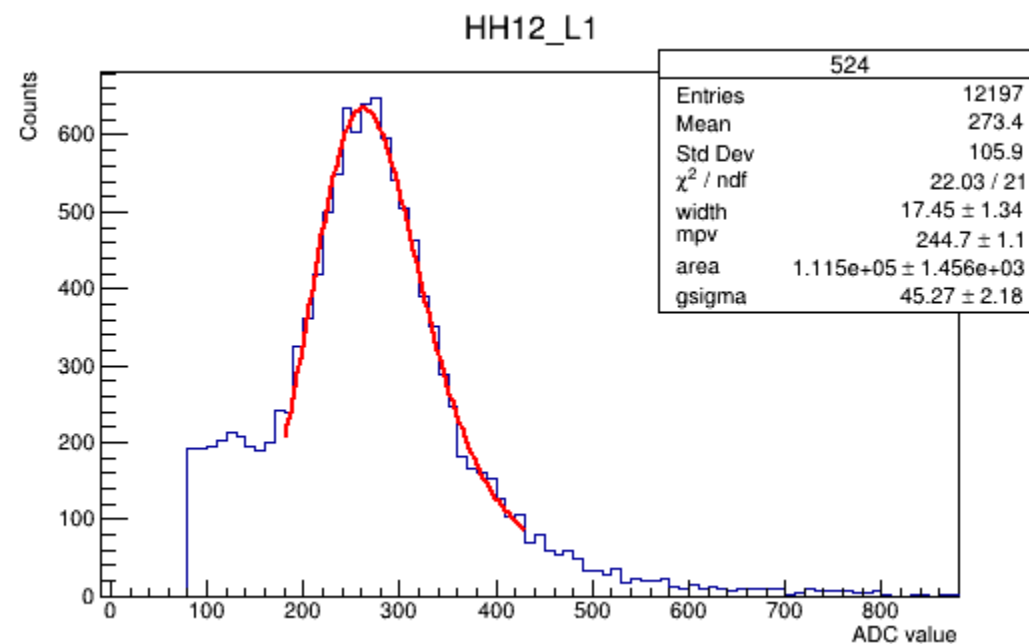
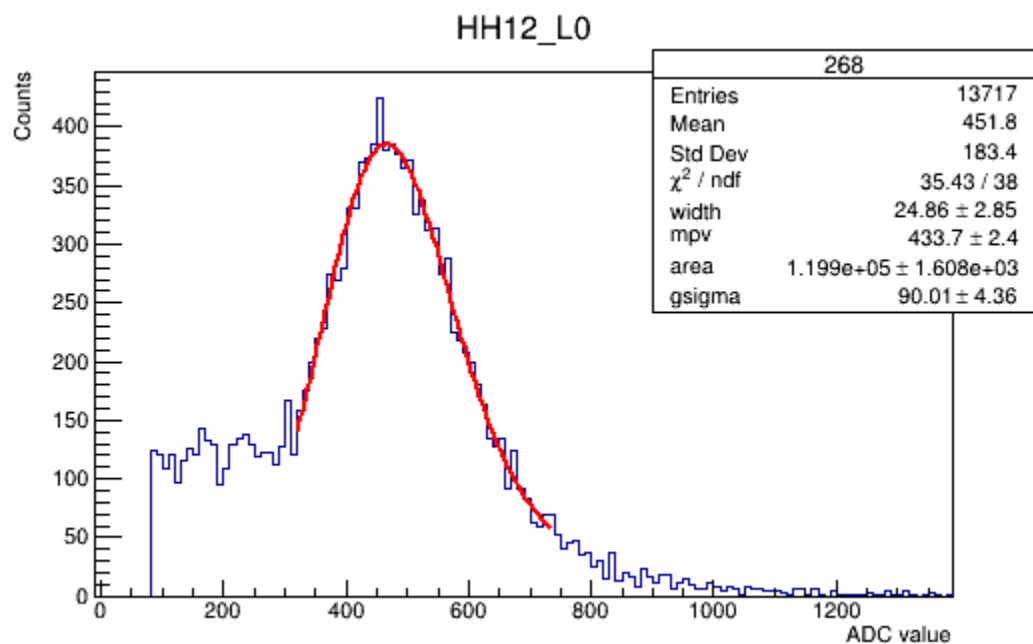


中心晶体的MIPs分布

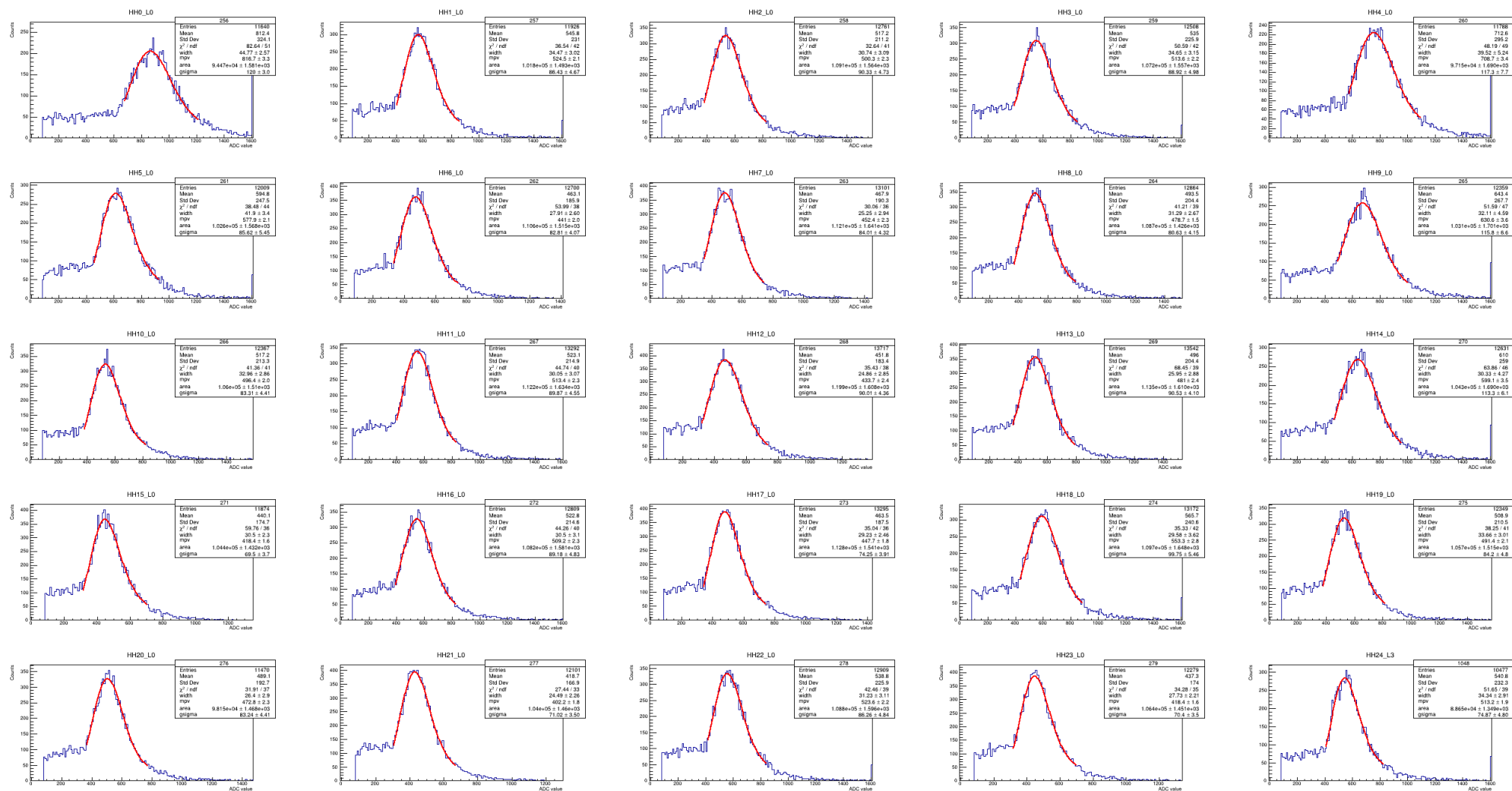


中心晶体的MIPs分布

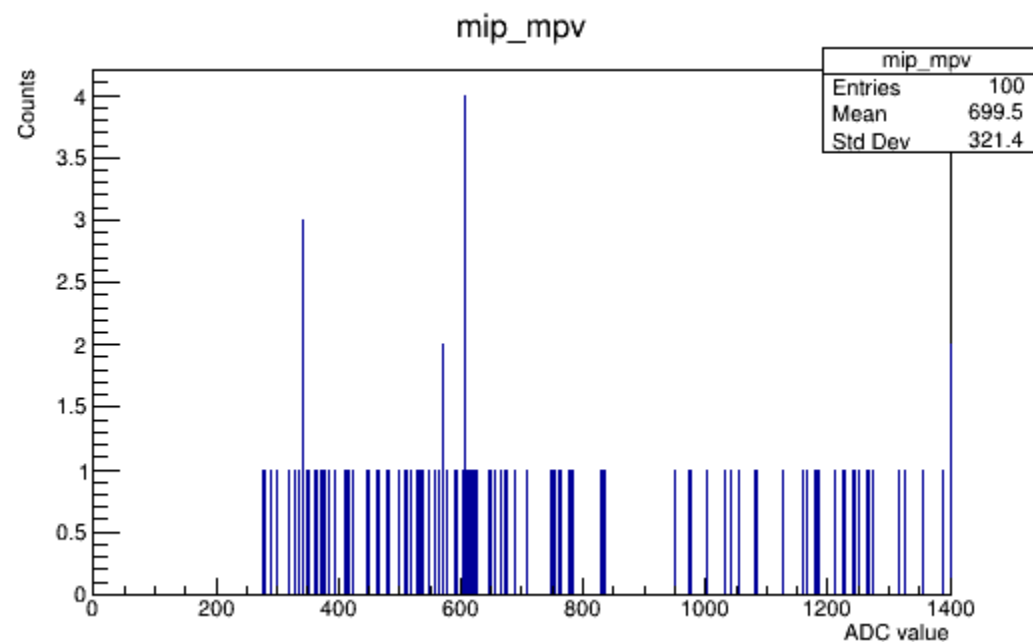
+04.07-04.12 ~4500 counts



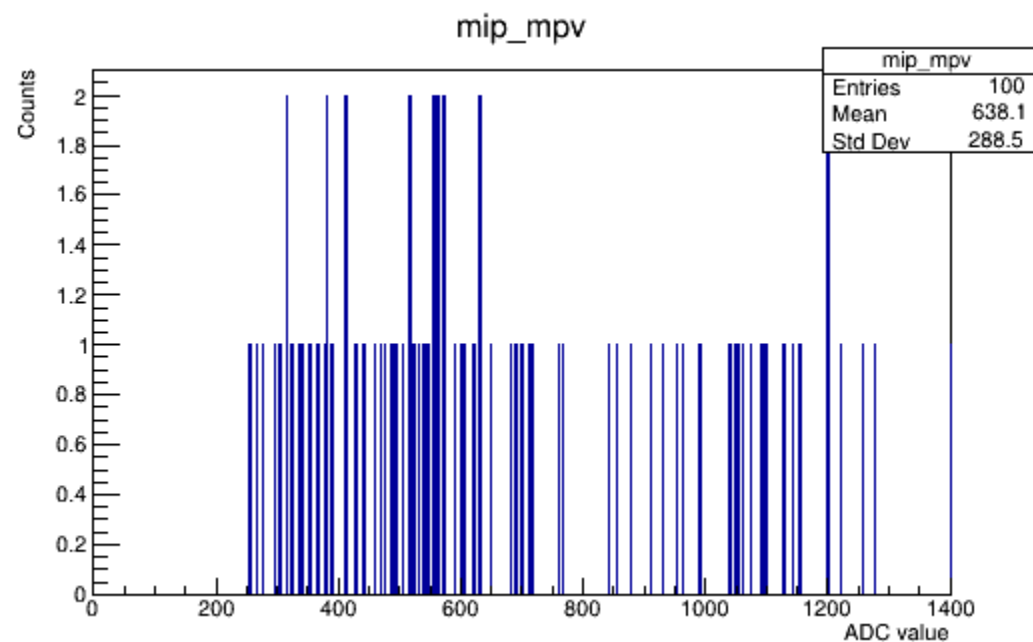
Layer 0所有晶体的MIPs分布



所有晶体的MIPs mpv汇总



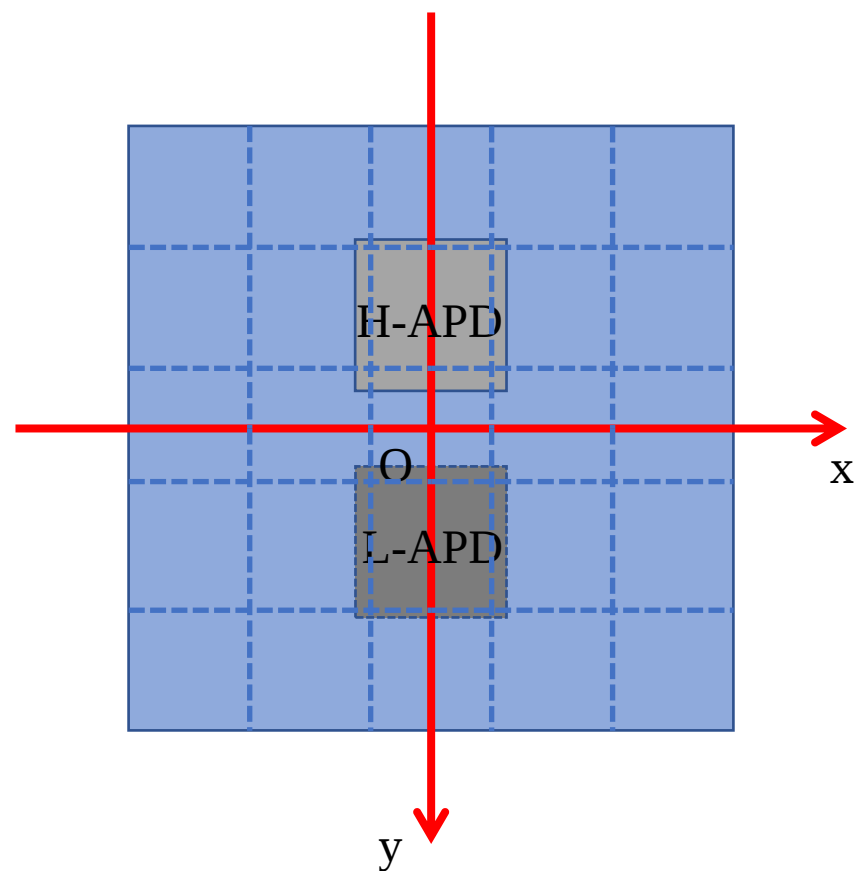
05.07-05.21 ~8000 counts



05.07-05.21 ~8000 counts
+04.07-04.12 ~4500 counts

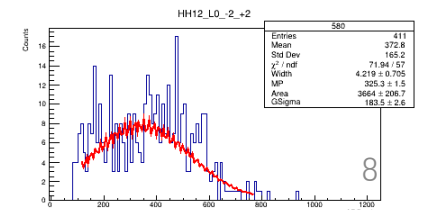
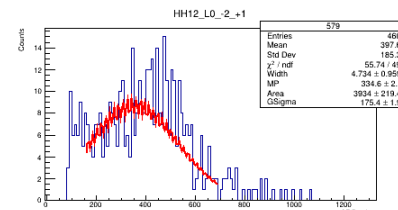
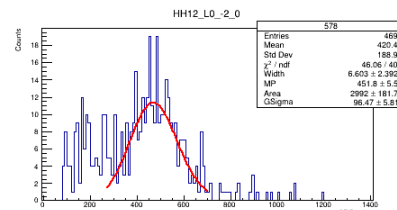
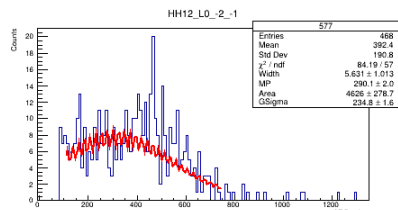
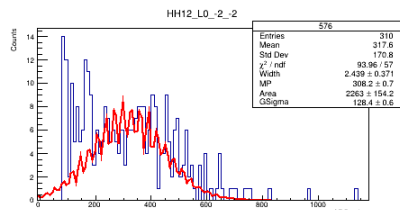
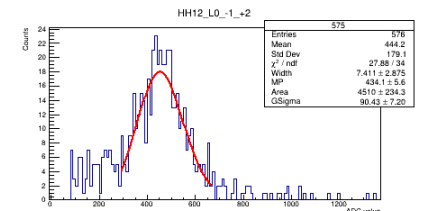
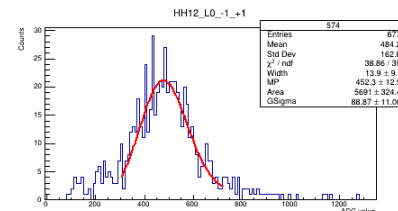
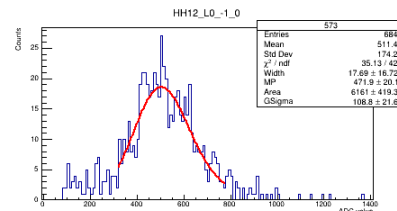
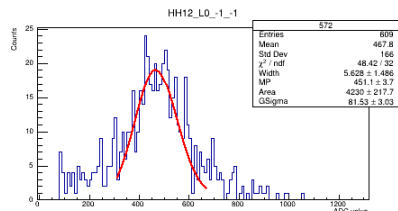
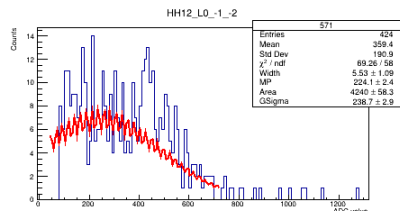
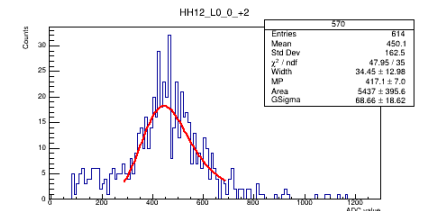
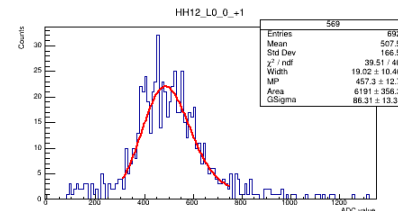
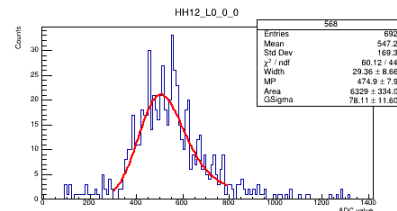
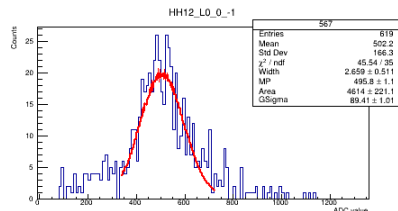
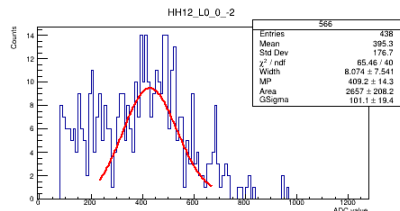
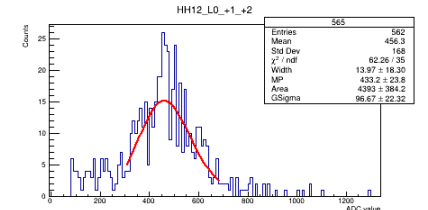
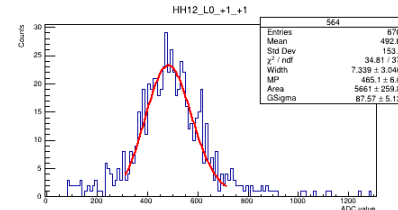
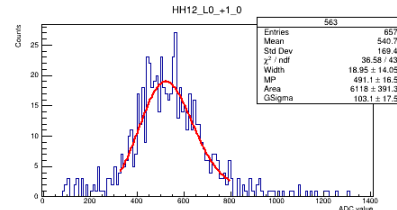
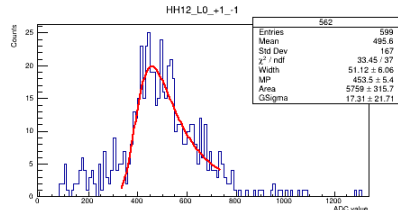
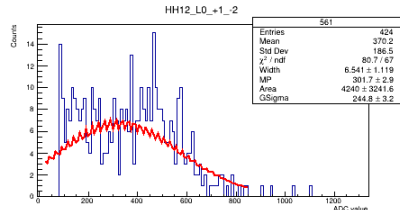
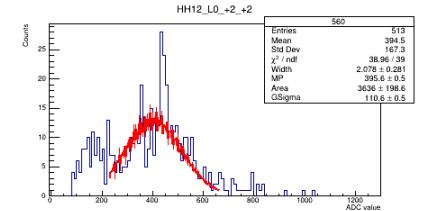
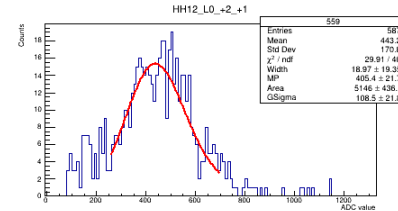
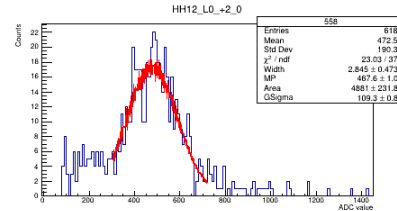
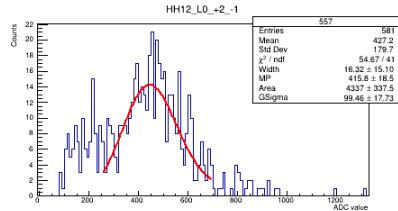
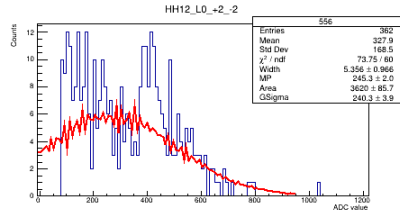
荧光传输与收集的不均匀性

- 若按 5×5 的方式分割中央晶体，则有1个单元将覆盖APD的主体区域；
- 目前已经测试15天，每块晶体上获得~12000个有效事例；

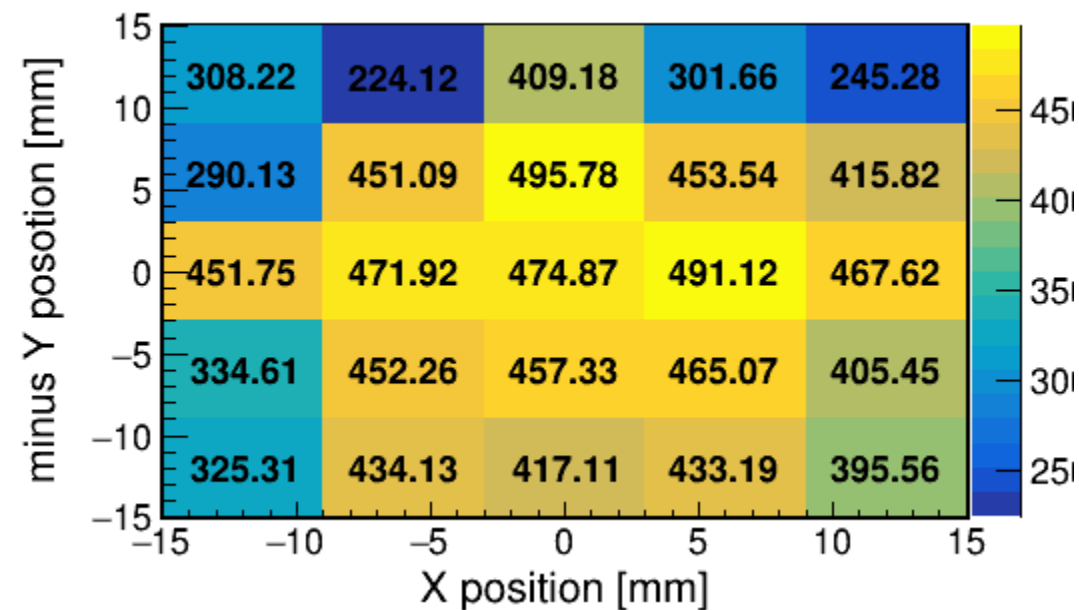
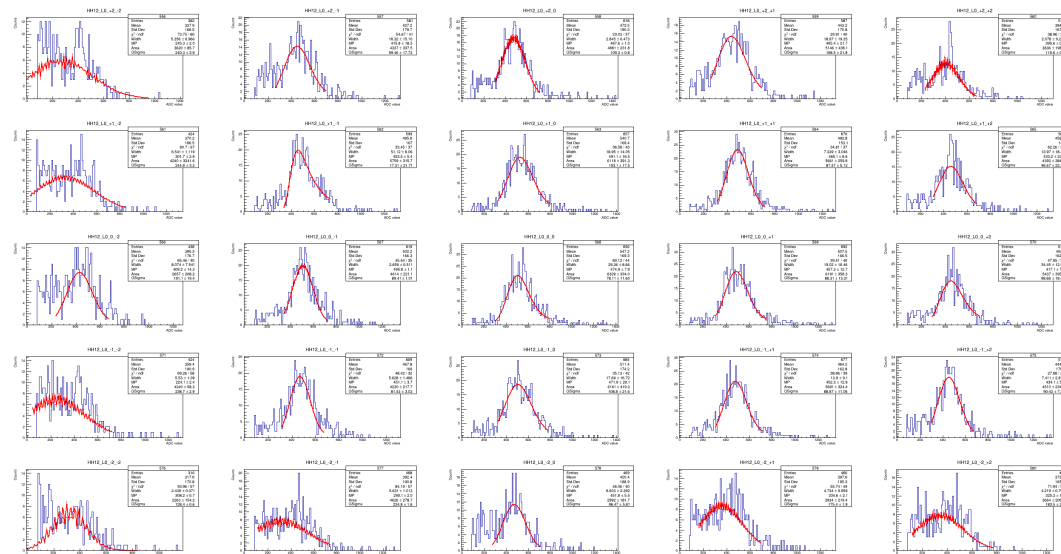


晶体的假想分割方式

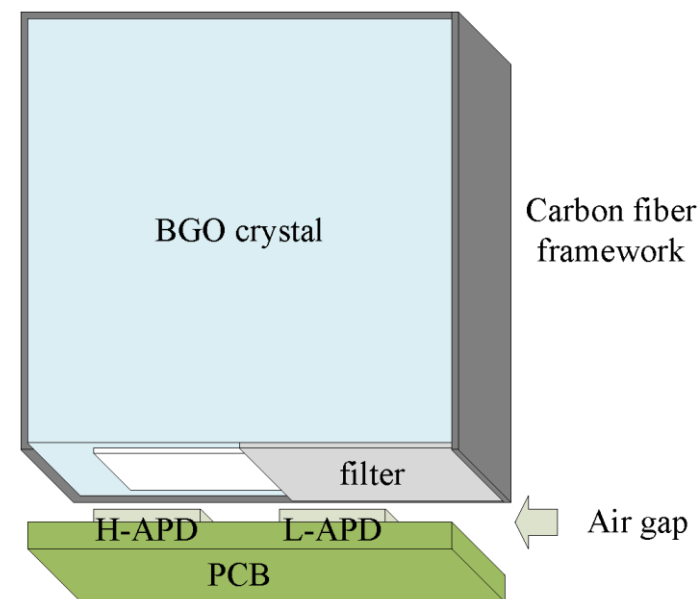
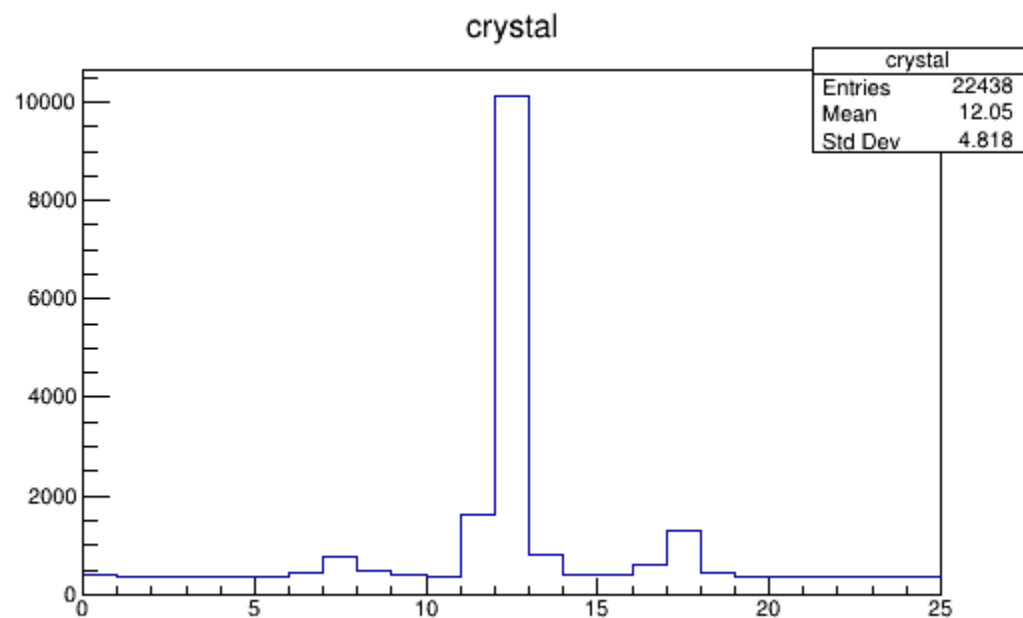
HH12L0 晶体按 5×5 划分的MIPs分布



HH12L0 晶体按 5×5 划分的MIPs分布

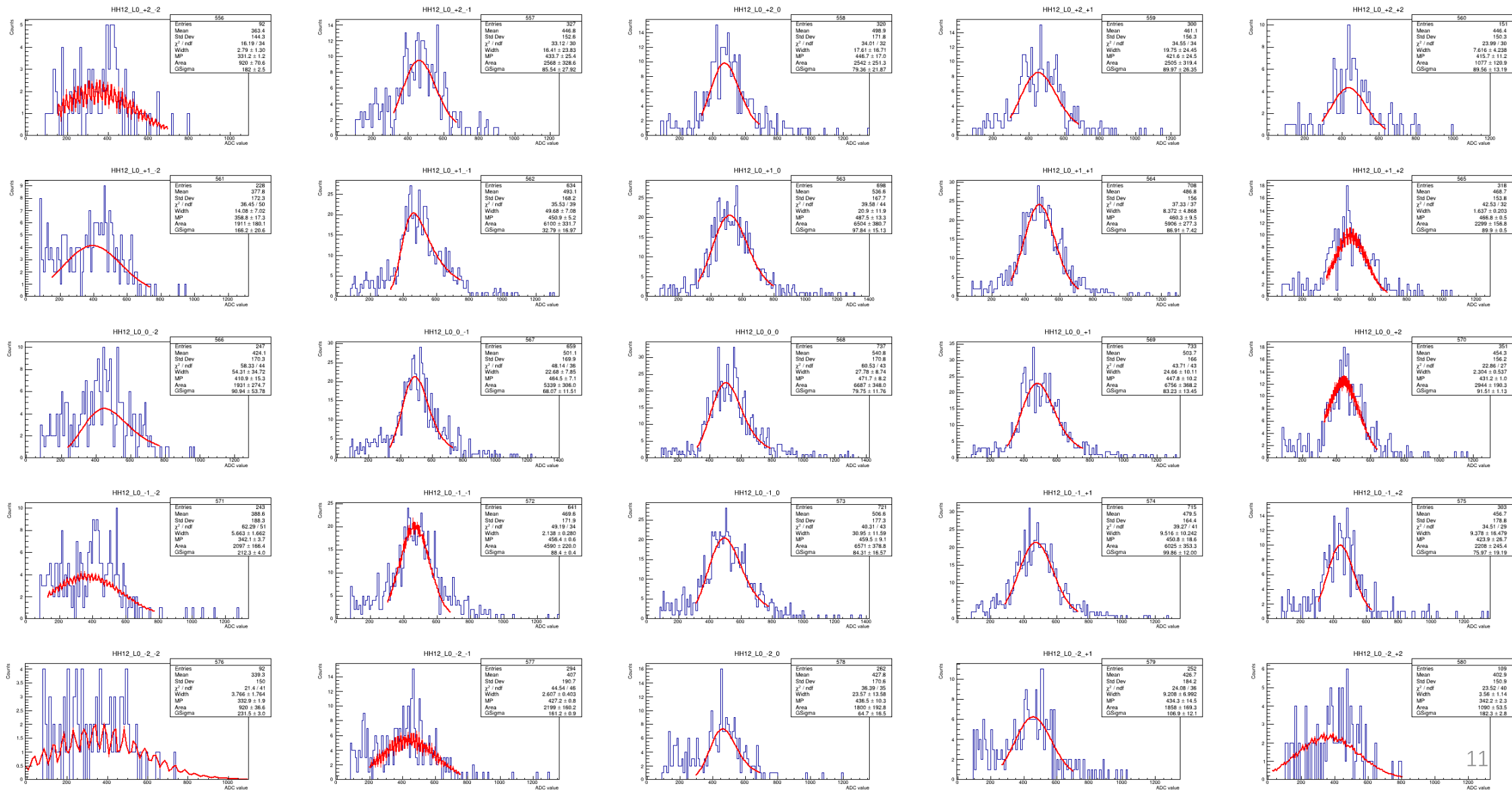


限制径迹在HH12L0范围内，统计有信号的通道编号

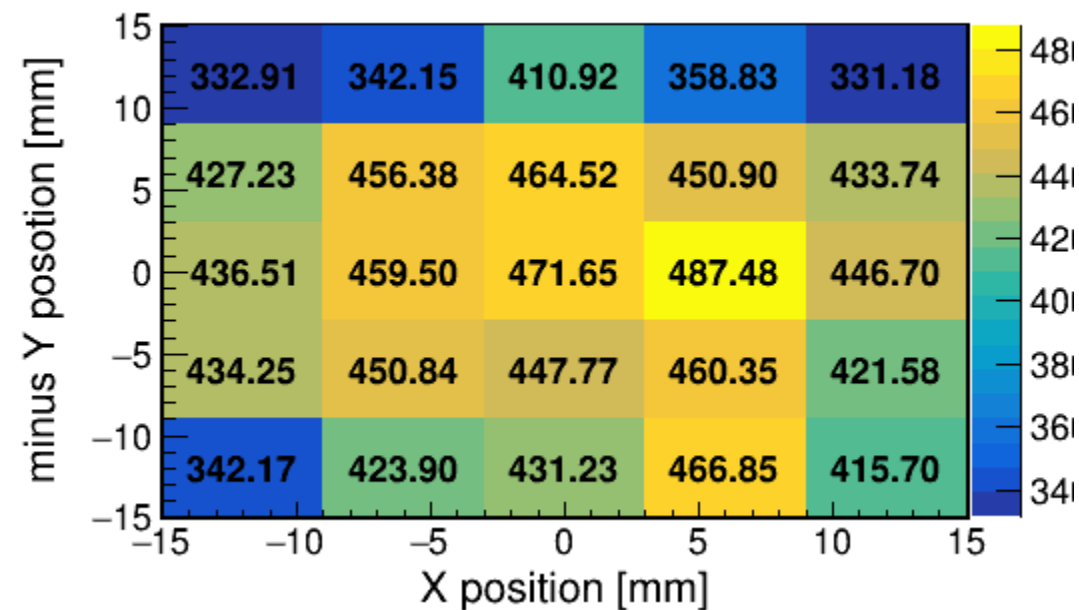
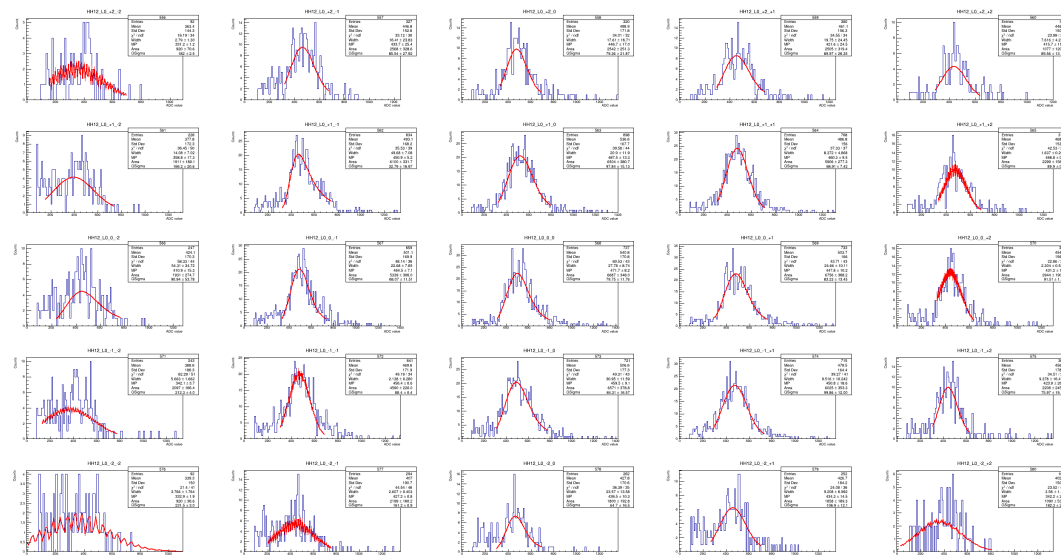


一个灵敏单元的结构框图

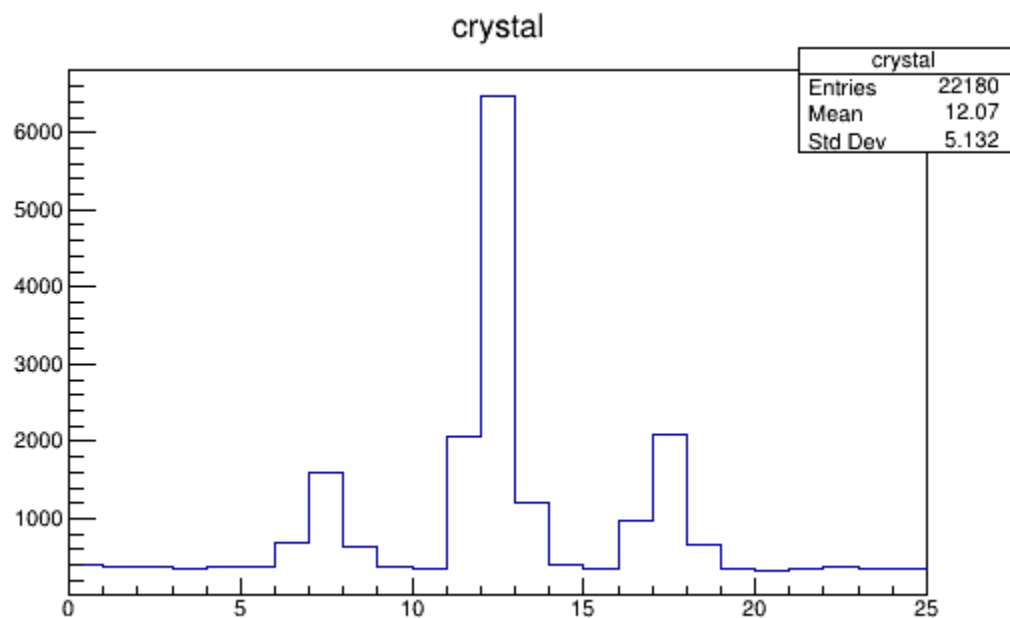
HH12L0 按5×5划分



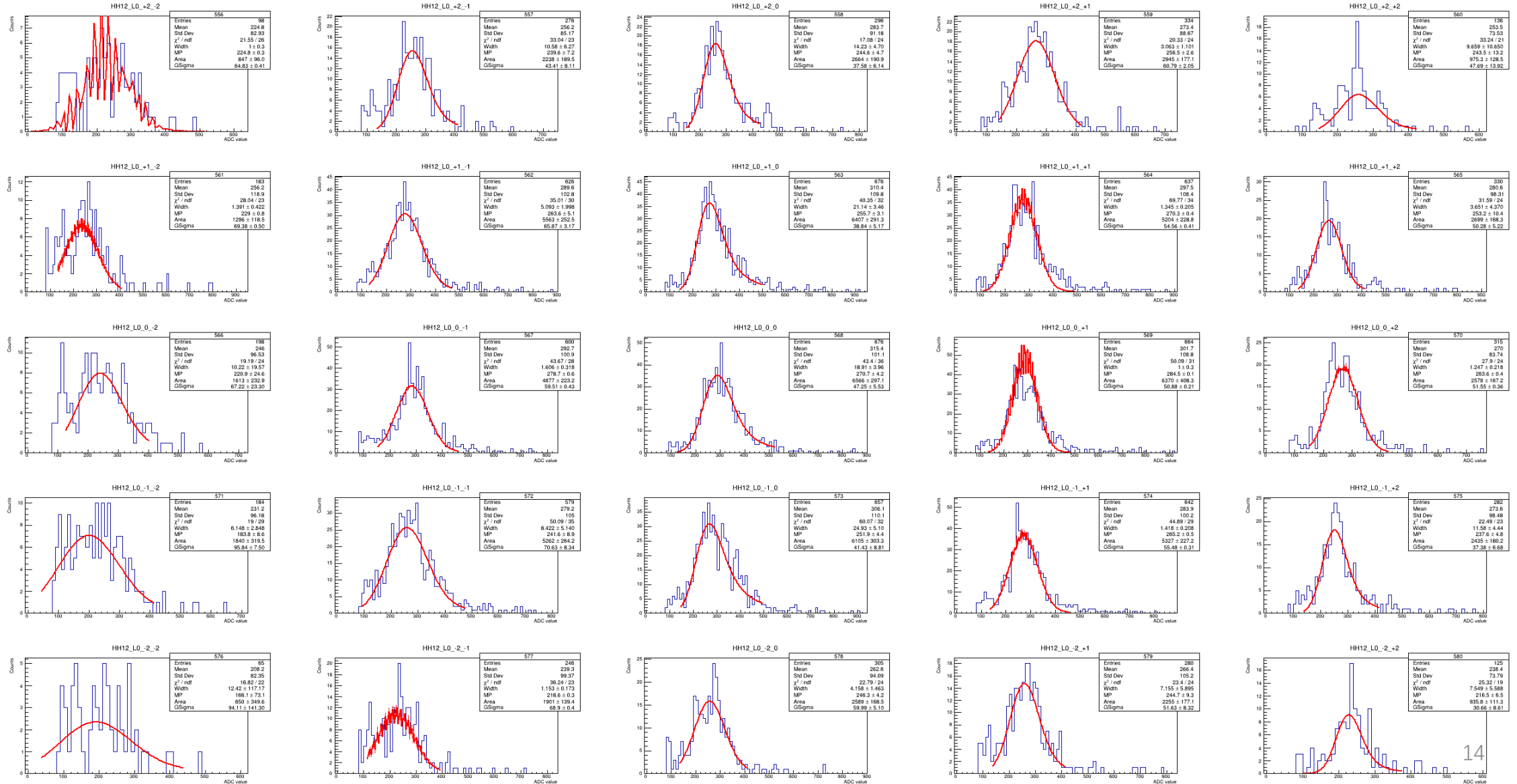
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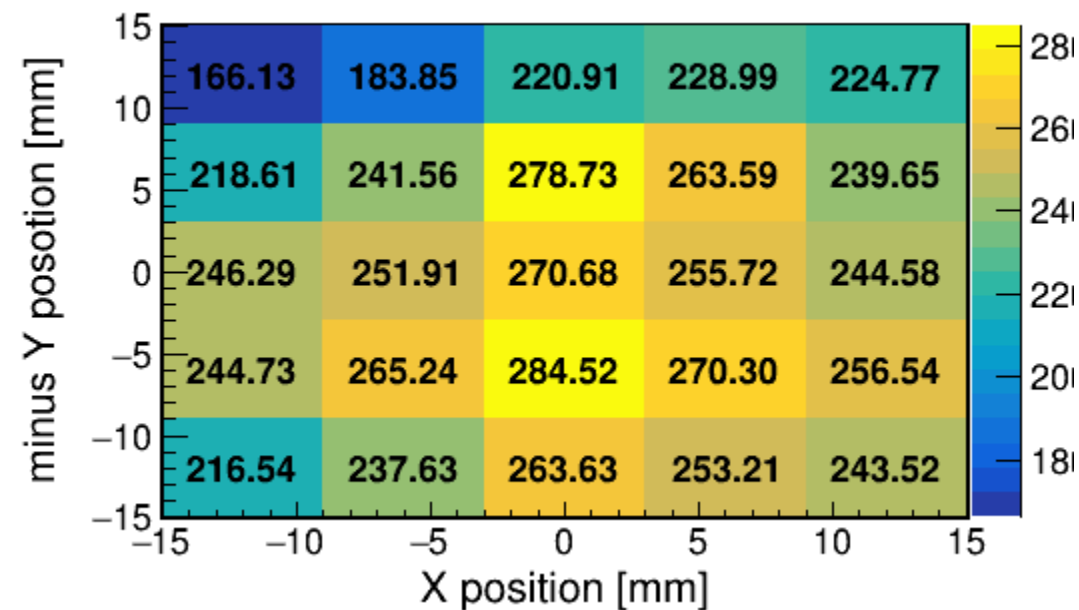
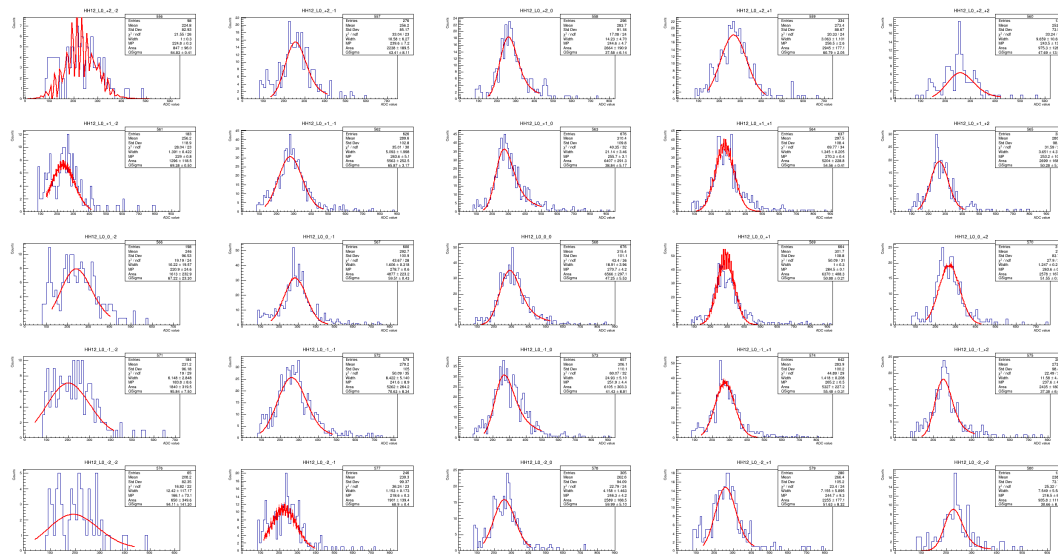
限制径迹在HH12L1范围内，统计有信号的
通道编号



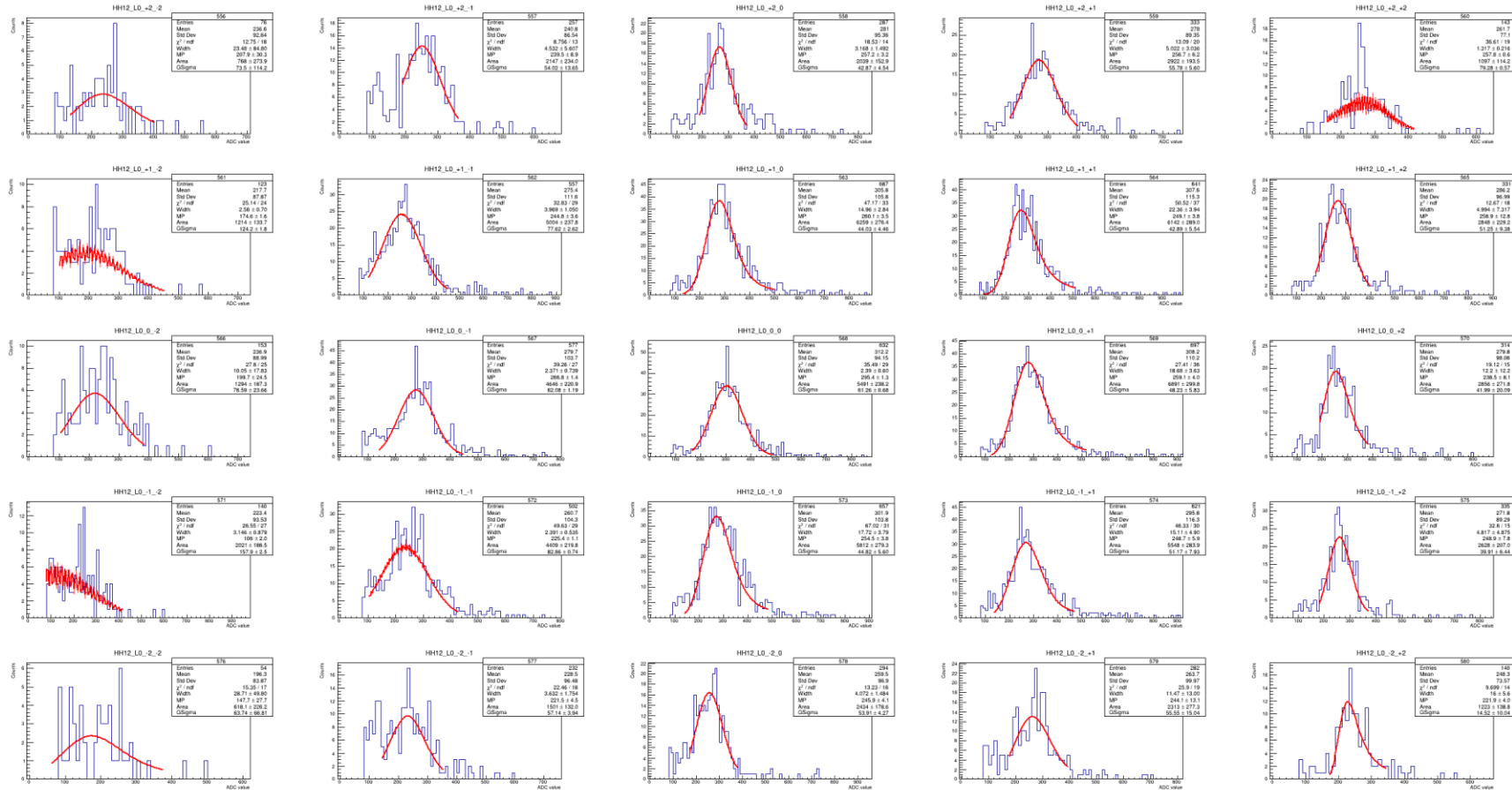
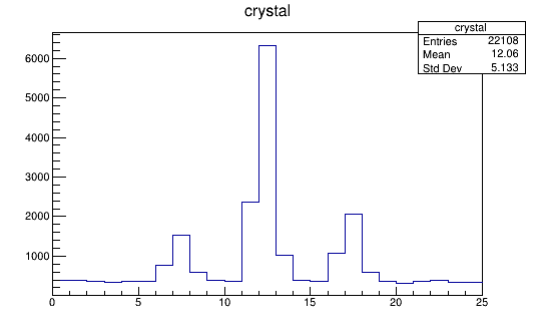
HH12L1 按5×5划分



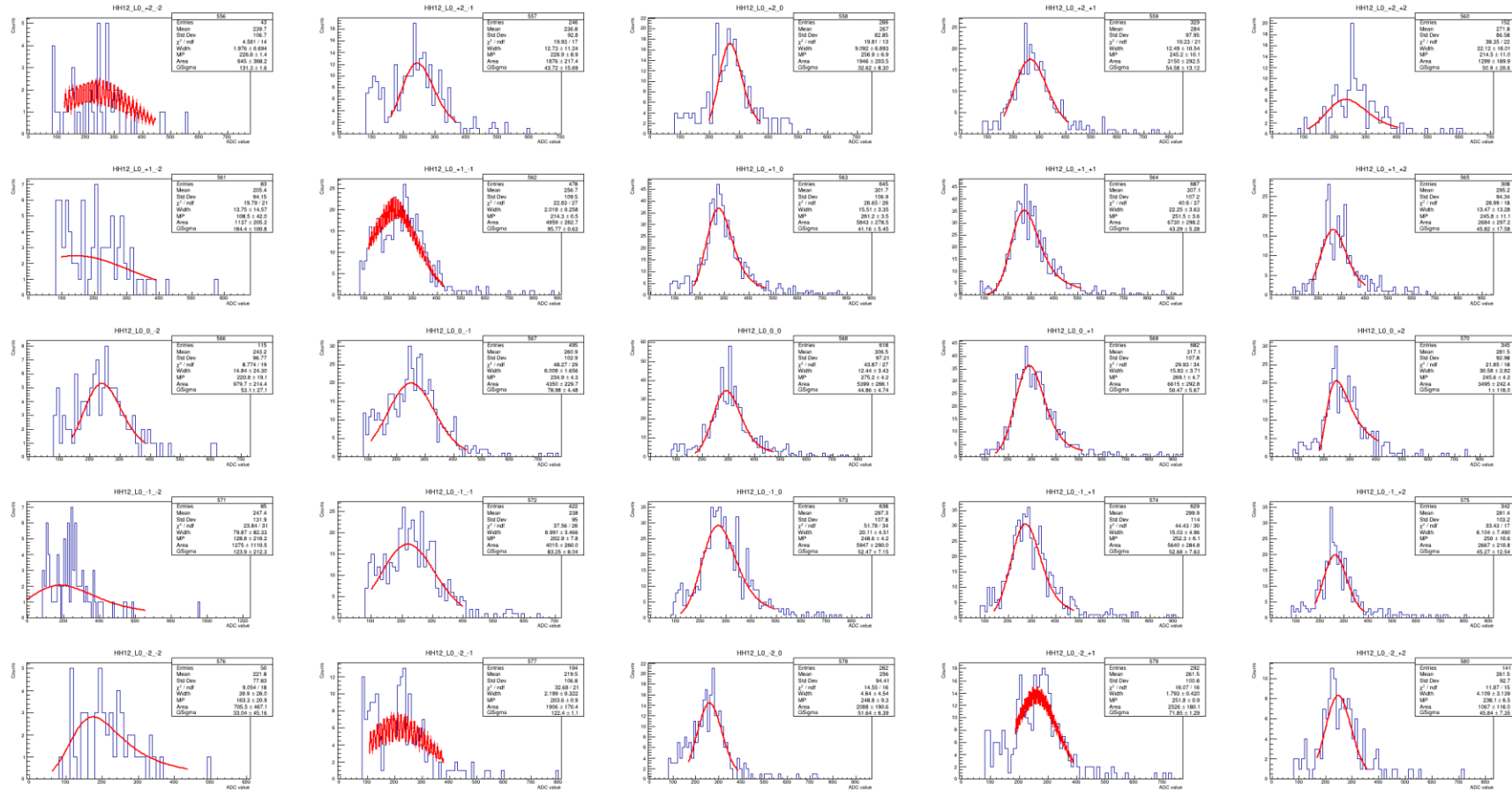
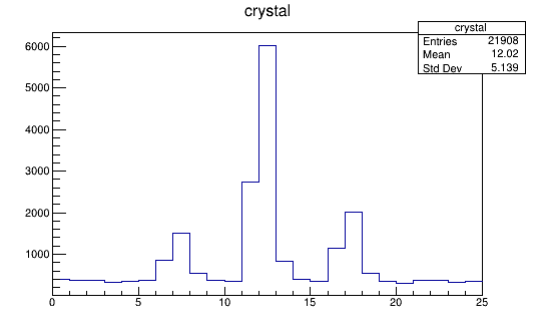
HH12L1 按 5×5 划分



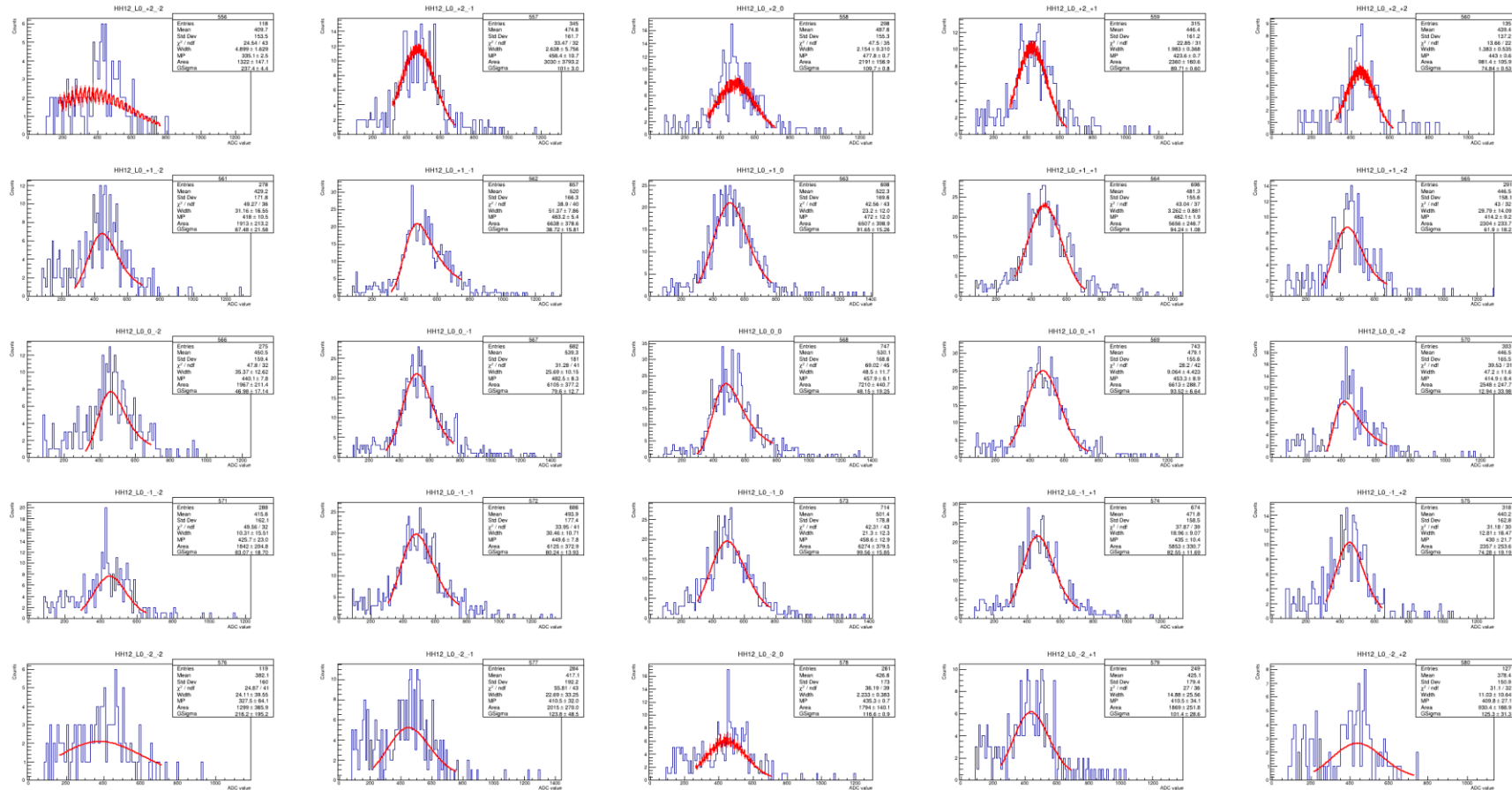
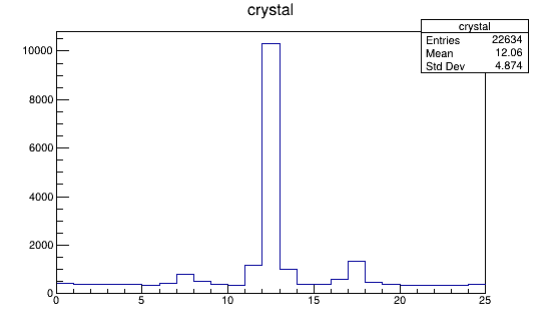
Y coordinate + 2mm HH12L1



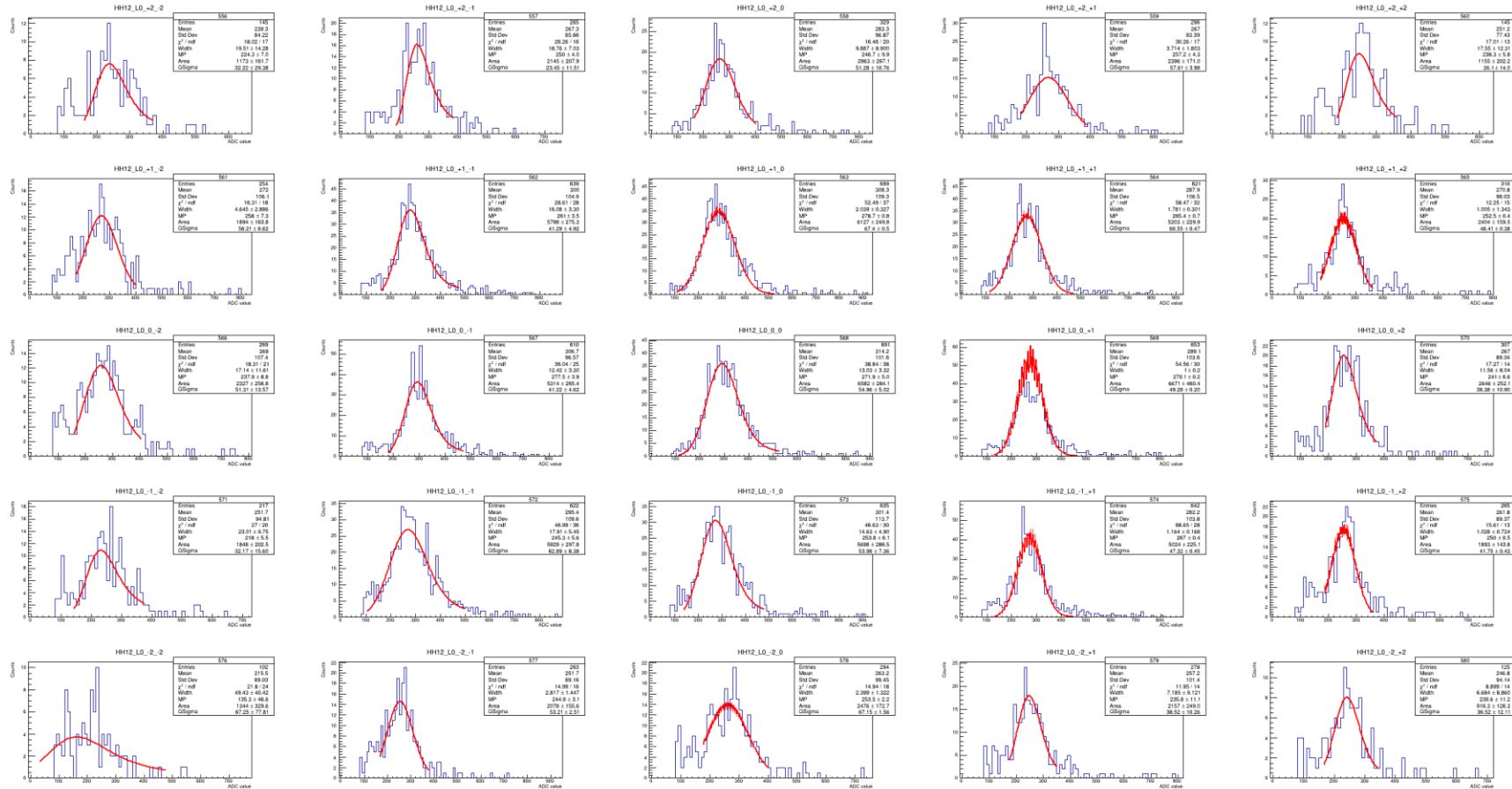
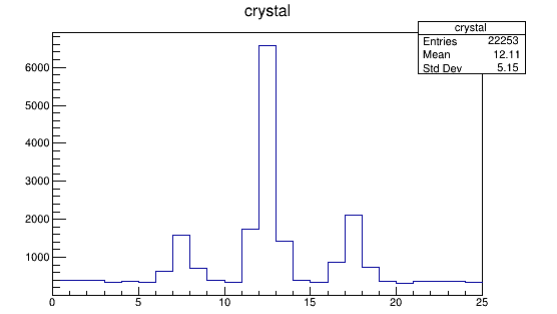
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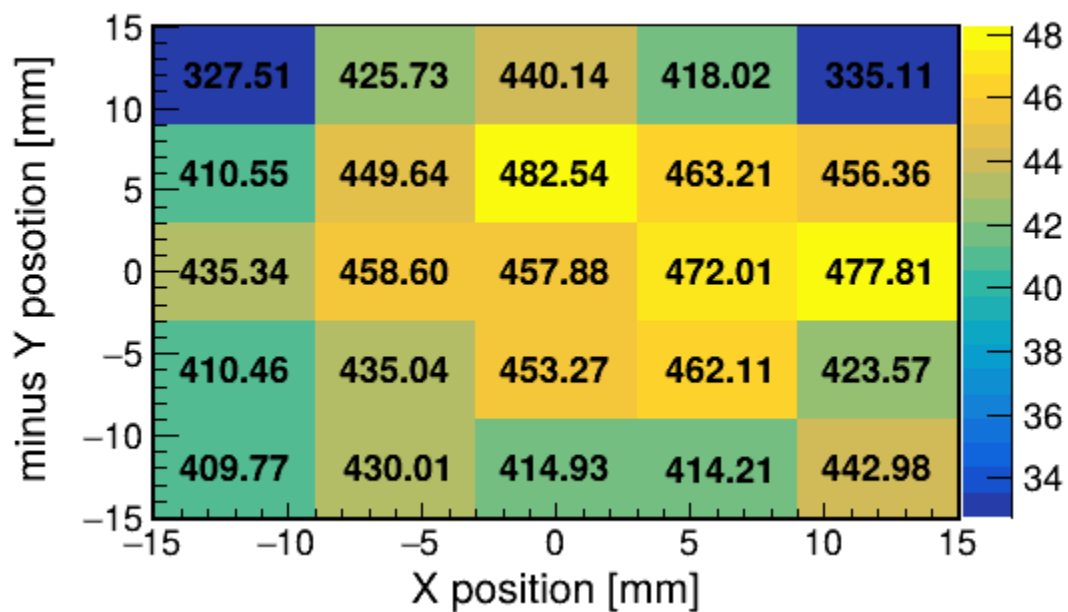
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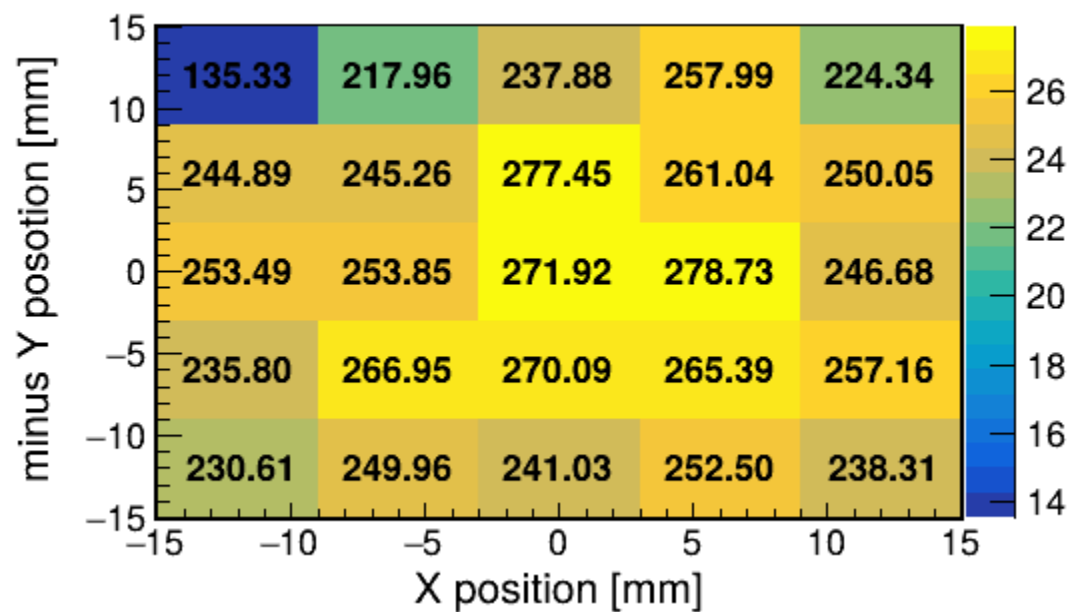
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Y coordinate – 2mm

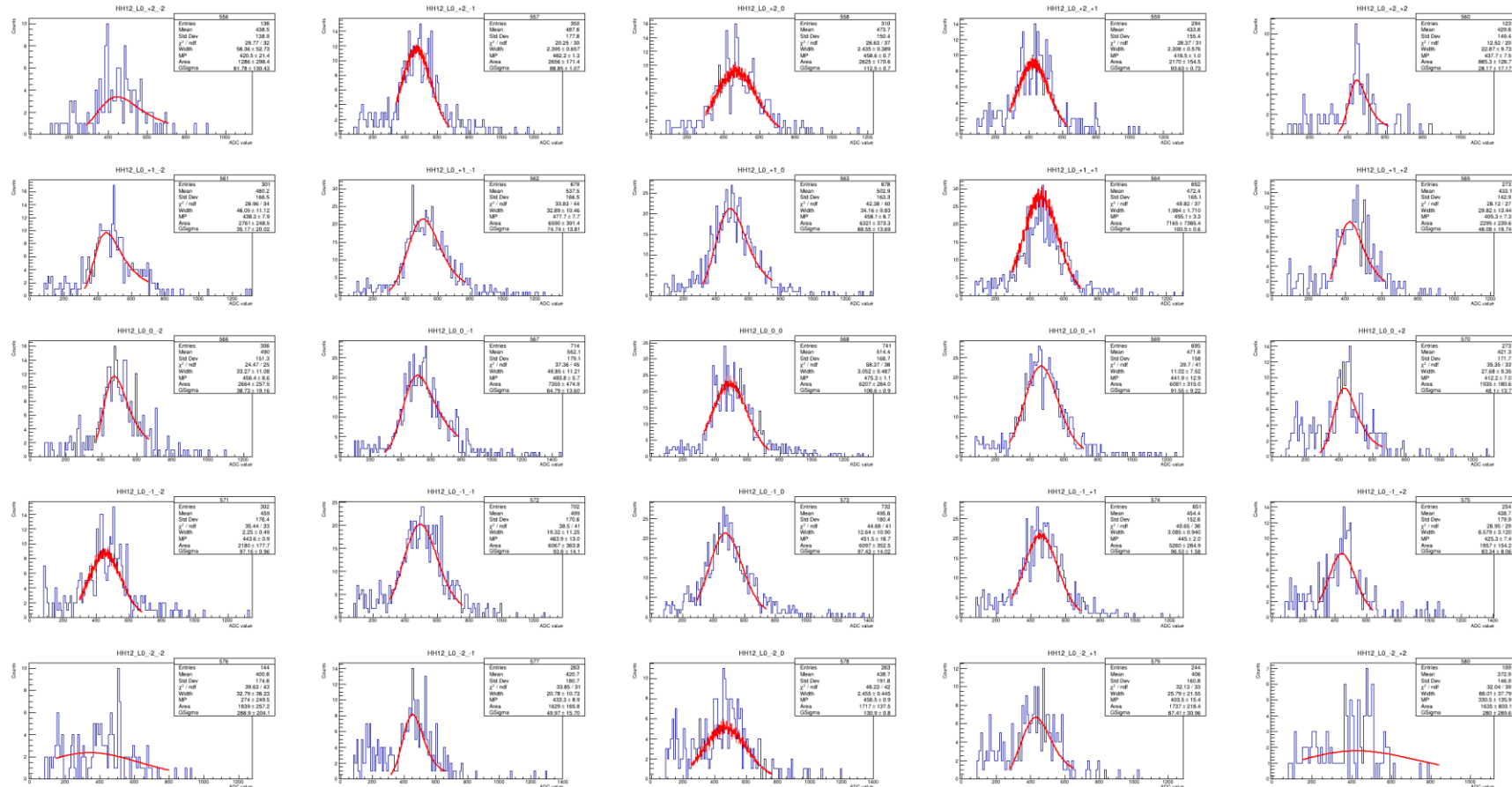
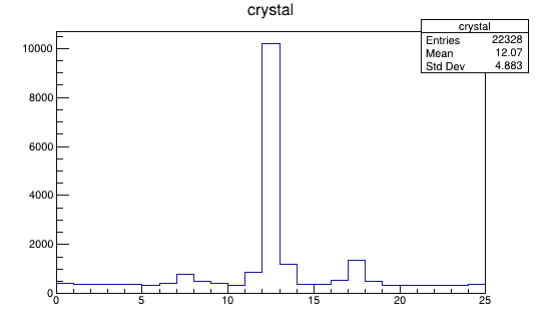


HH12L0 按5×5划分

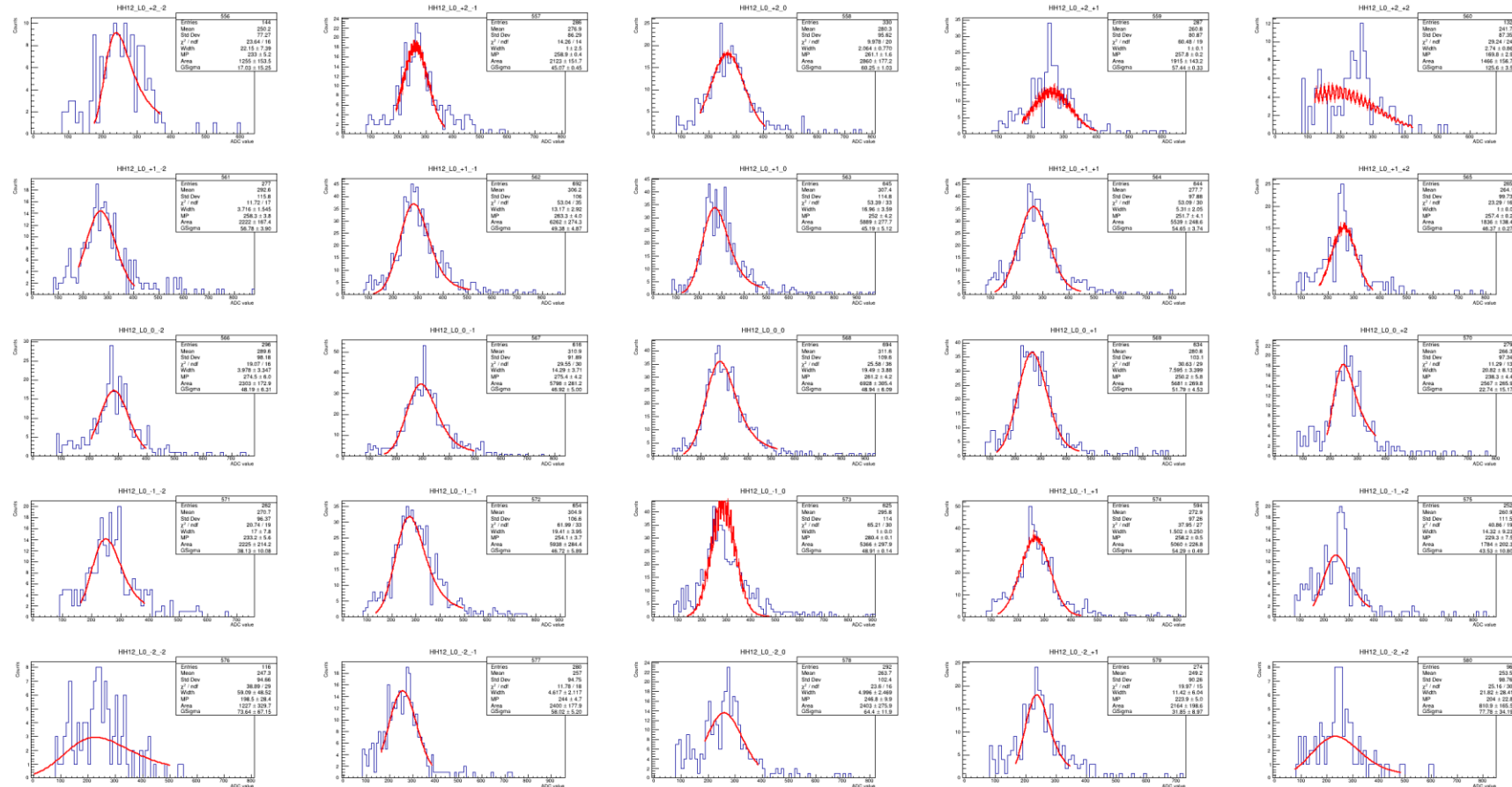
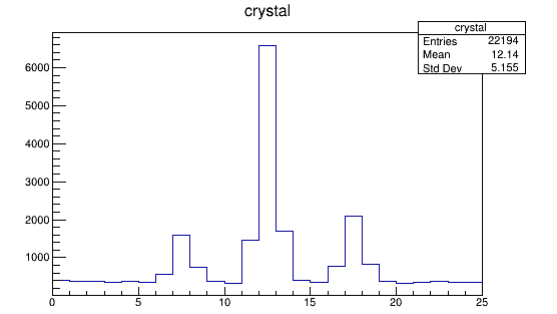


HH12L1 按5×5划分

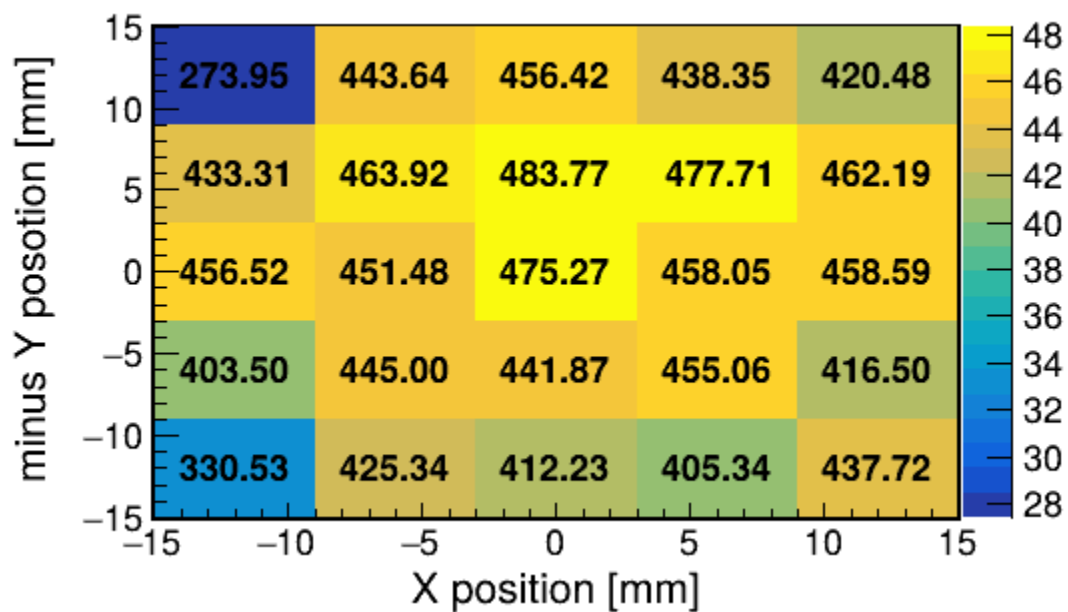
Y coordinate – 4mm HH12L0



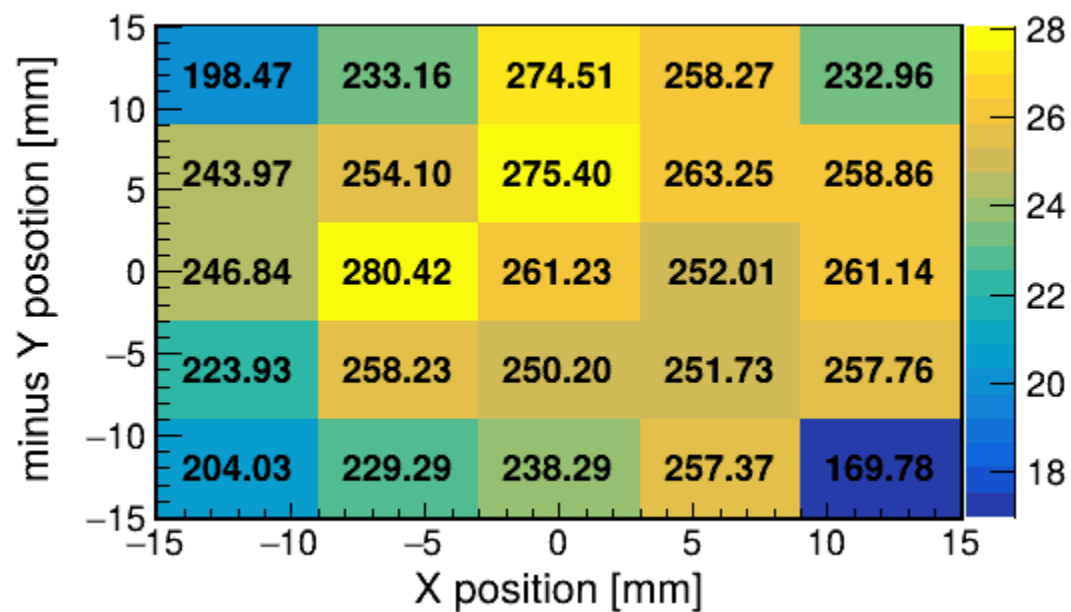
Y coordinate – 4mm HH12L1



Y coordinate – 4mm



HH12L0 按5×5划分



HH12L1 按5×5划分

