

# LAMPS meeting 20200515

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# 중성자 검출기 나무상자 처리-1



1. 박향규 교수님께서 중성자 검출기  
신틸레이터 운송에 쓰였던 나무 박스 처리를  
요청

2. 고려대 세종캠퍼스에 요청을 하였으나  
학교내에서 자체적으로 처리해주지  
않는다는 답변을 받음



3. 고대 세종의 청소업체 담당자가 70->60에  
처리하겠다는 제안을 받음, 단 개인적으로...

4. 처리요청하여 3인 + 차량 2대를 이용해 처리

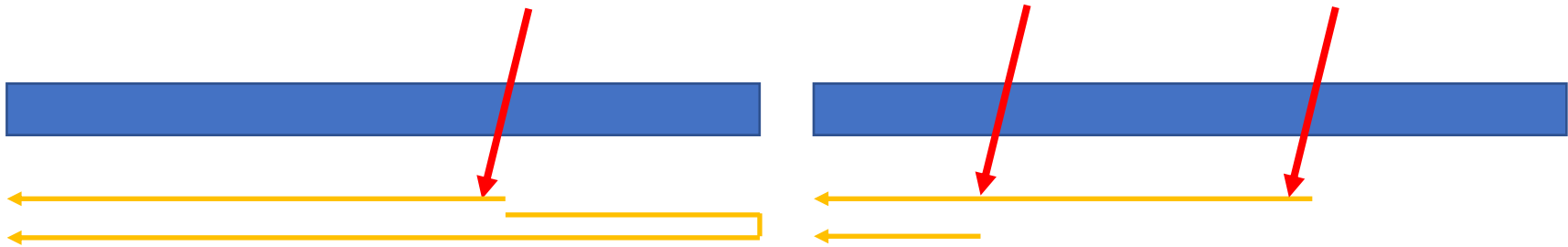
# 중성자 검출기 나무상자 처리-2



나무상자 처리시 발생한 스티로폼 완충제  
부피 : 3m x 2m x 1m

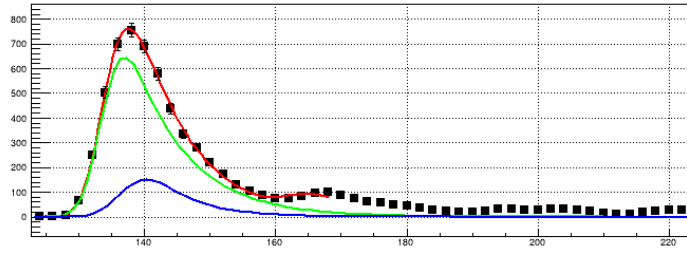
1. 나무상자 처리시 같이 처리하려고 하였으나 청소업체 담당자가 스티로폼 처리소가 2년전쯤 없어졌다고 하여 처리 불가라고 통보 (검색해보니 해당업체가 2년전 화재로 없어짐)
2. 세종 청주 등지의 재활용 업체 및 고물상에 연락해봤으나 당업체에서는 수거하지 않는다고 답변
3. 조치원읍사무소 담당자에 연락하여 문의해 보니 고대세종에 담당업체에서 처리해 줘야 한다고 답변을 받았으나 처리가 안되면 처리해 줄 것 같음
4. 다음주 수요일 (목요일이 지정 수거일) 스티로폼을 대학 바깥으로 반출하여 처리예정

# Neutron detector waveform analysis

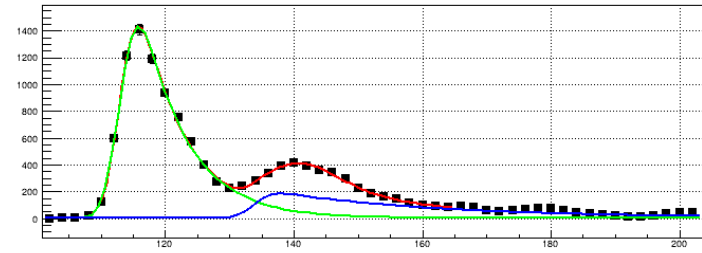


- To solve reflected light effect & multi-hit event
- Basic waveform function
  - $h_1 \times \operatorname{erf}\left(\frac{x-t_1}{\sigma_1}\right) \exp\left(\frac{x-t_1}{\sigma_2}\right)$
  - H1 : height
  - T1 : timing
  - Sigma 1 : Raising slope
  - Sigma 2 : Falling slope
- Fitting signal waveform with combination of two or three basic waveform considering delay and attenuation.

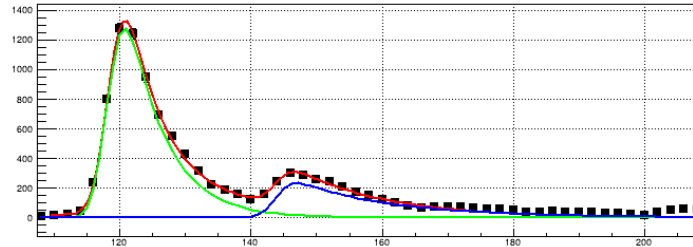
MCRL: 2 0



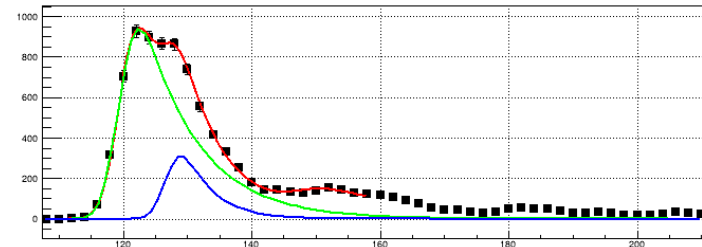
MCRL: 60 0



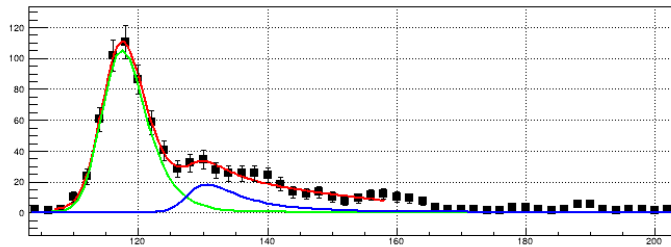
MCRL: 2 1



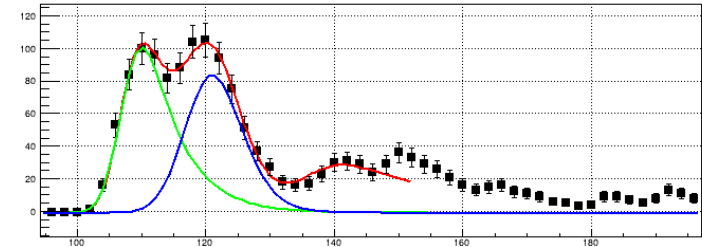
MCRL: 60 1



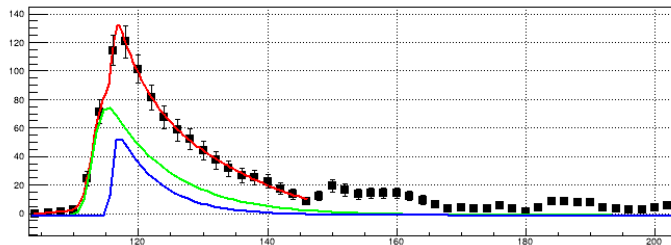
MCRL: 0 0



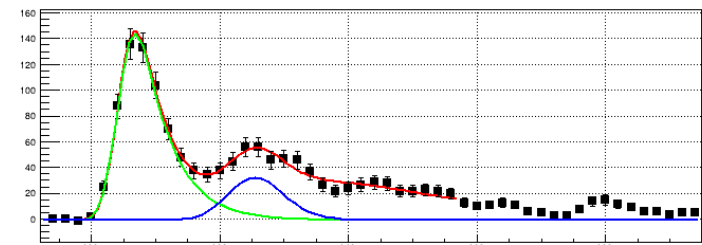
MCRL: 76 0



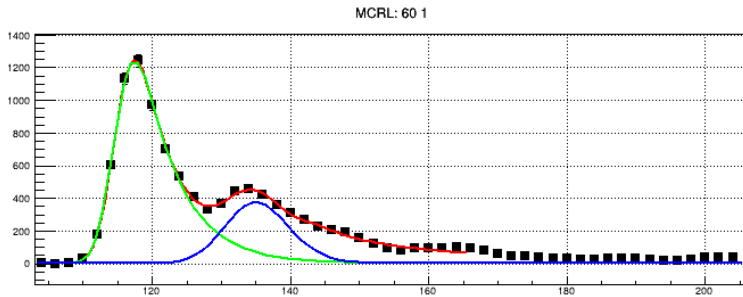
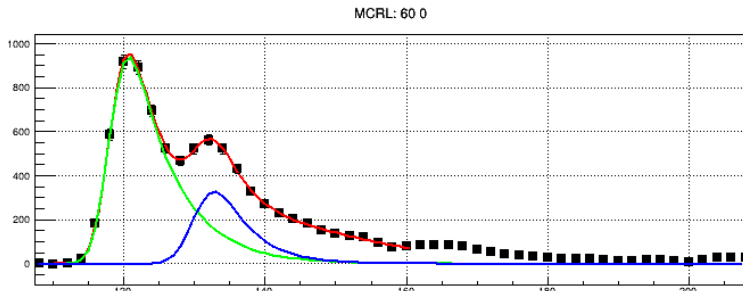
MCRL: 0 1



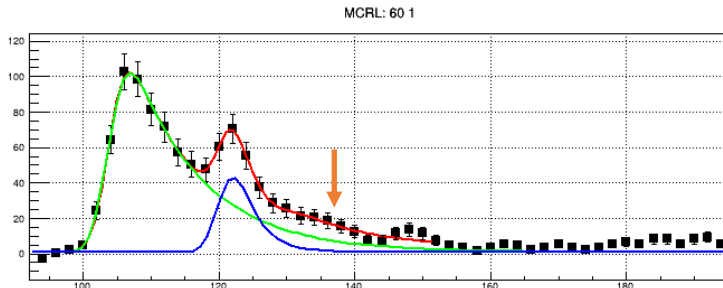
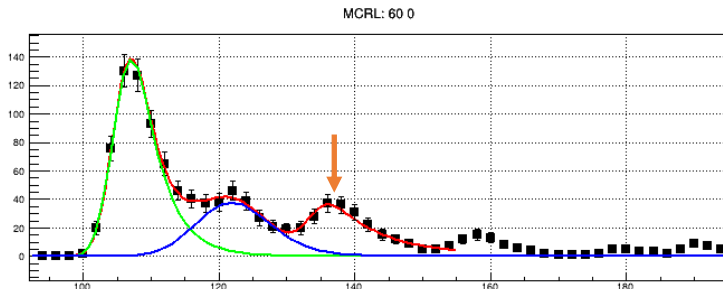
MCRL: 76 1



## Normal waveform



## Multi-hit candidate



- Several multi-hit candidate events were found. An Example shows additional signal after 30 ns.
- Multi-hit MC test will be done for Au+Au collision.

## Wrong fitting example

