

Timing, SAPPHiRE en API

David Fokkema

Kaj Munk College
Nationaal Instituut voor Subatomaire Fysica (Nikhef)

25 maart 2013 / LIO bijeenkomst



- 1 Problems with particle timing code
 - The problem
 - The impact
- 2 SAPPHiRE
- 3 API

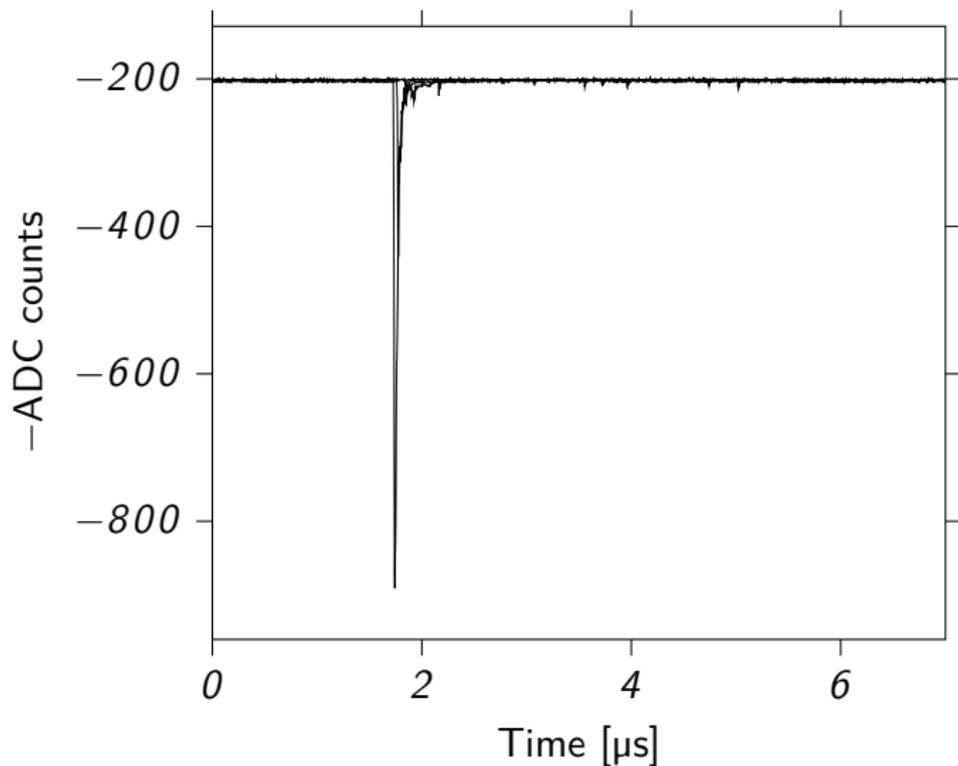
Outline

- 1 Problems with particle timing code
 - The problem
 - The impact
- 2 SAPPHiRE
- 3 API

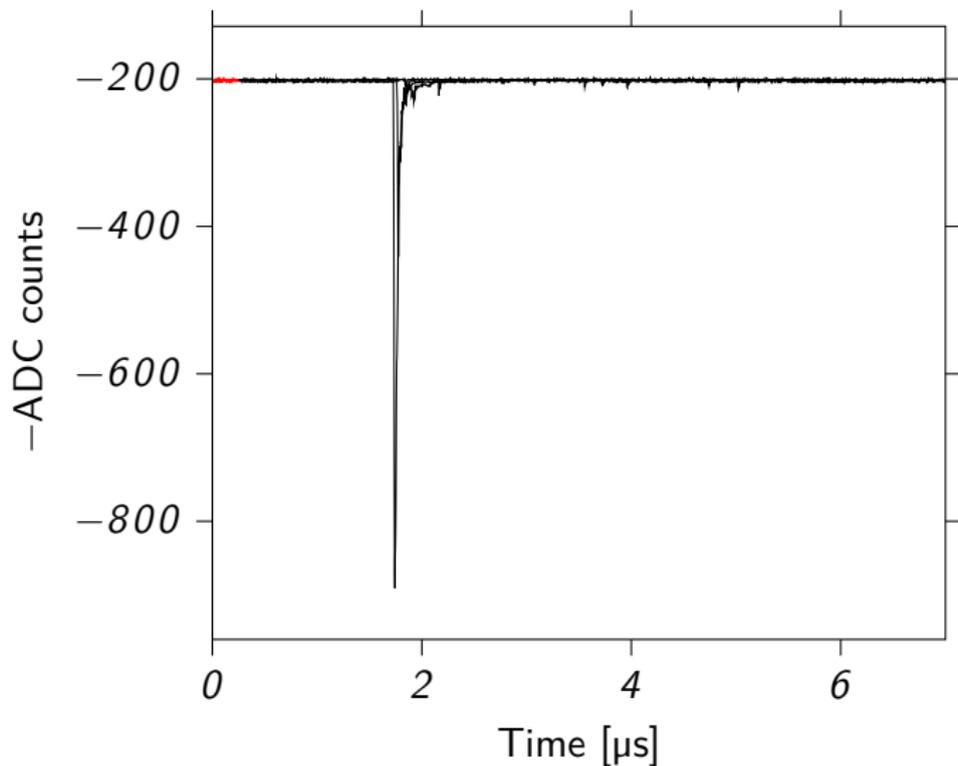
Code

```
def _reconstruct_time_from_trace(self, trace):  
    """Reconstruct time of measurement from a trace."""  
  
    t = trace[:100]  
    baseline = np.mean(t)  
  
    trace = trace - baseline  
    threshold = ADC_THRESHOLD  
  
    value = np.nan  
    for i, t in enumerate(trace):  
        if t >= threshold:  
            value = i  
            break  
  
    return value * ADC_TIME_PER_SAMPLE
```

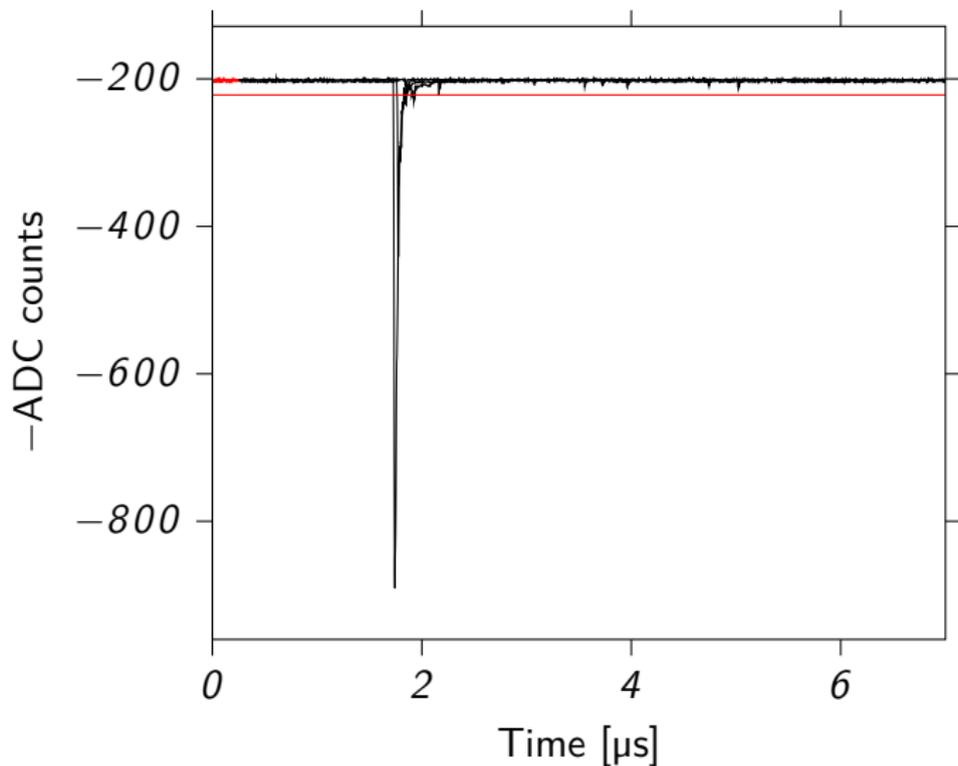
Timing



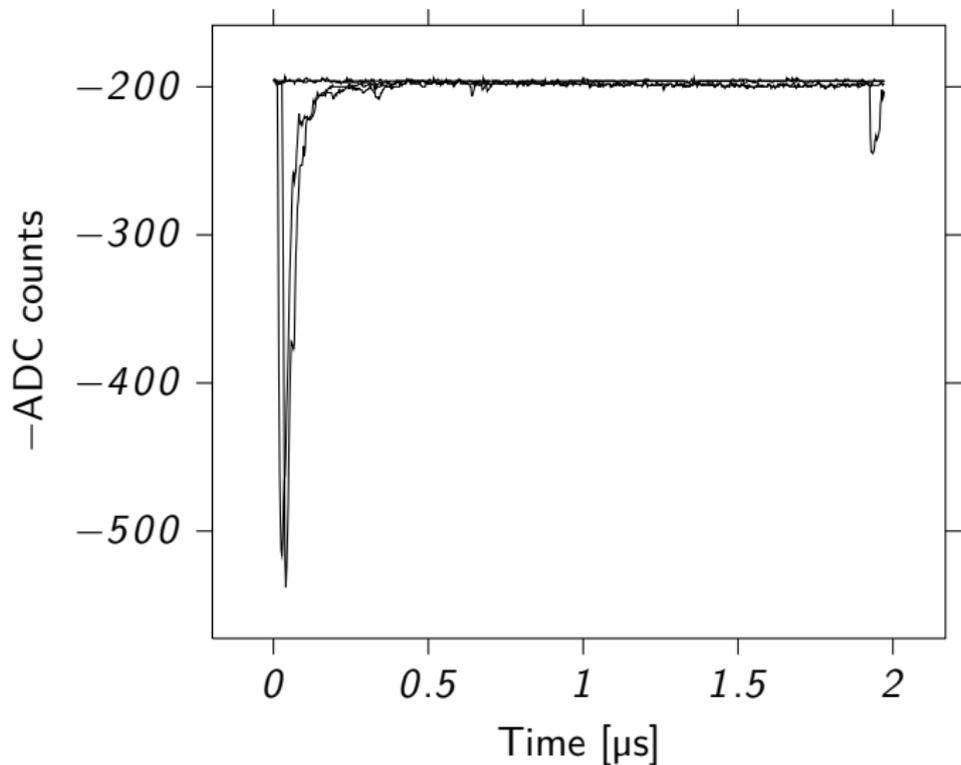
Timing



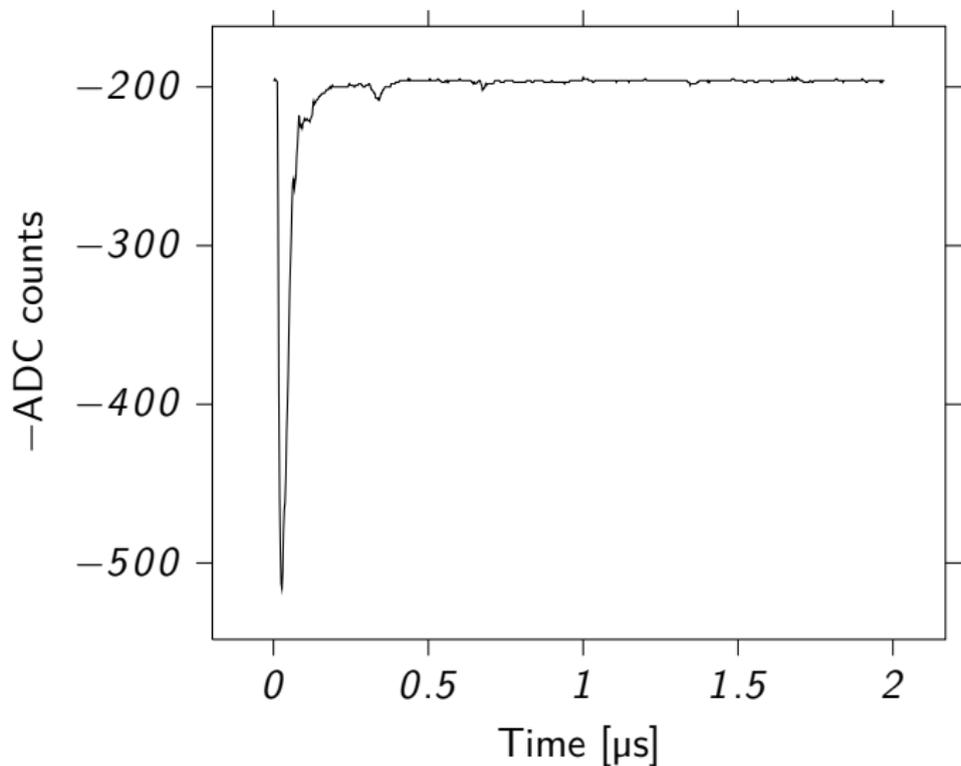
Timing



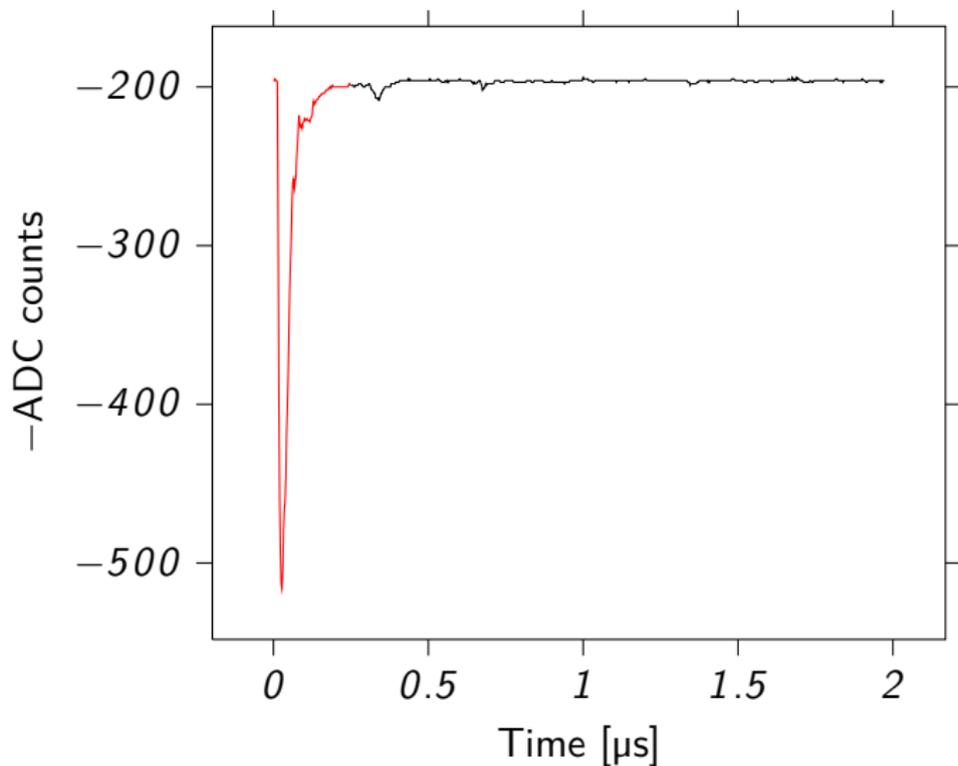
Timing



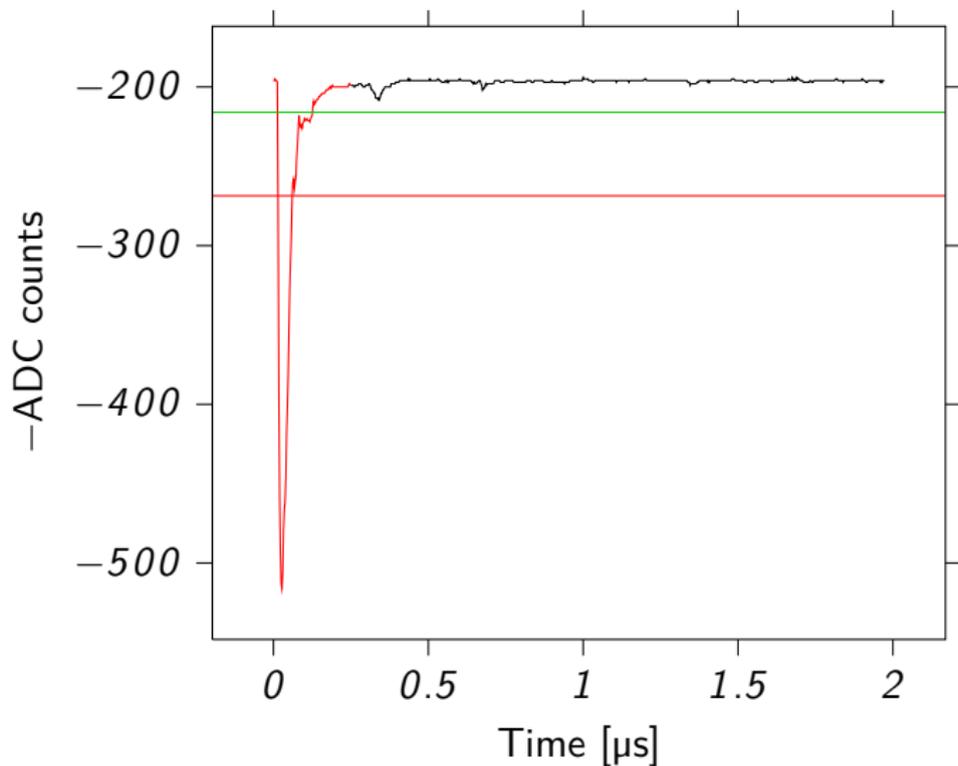
Timing



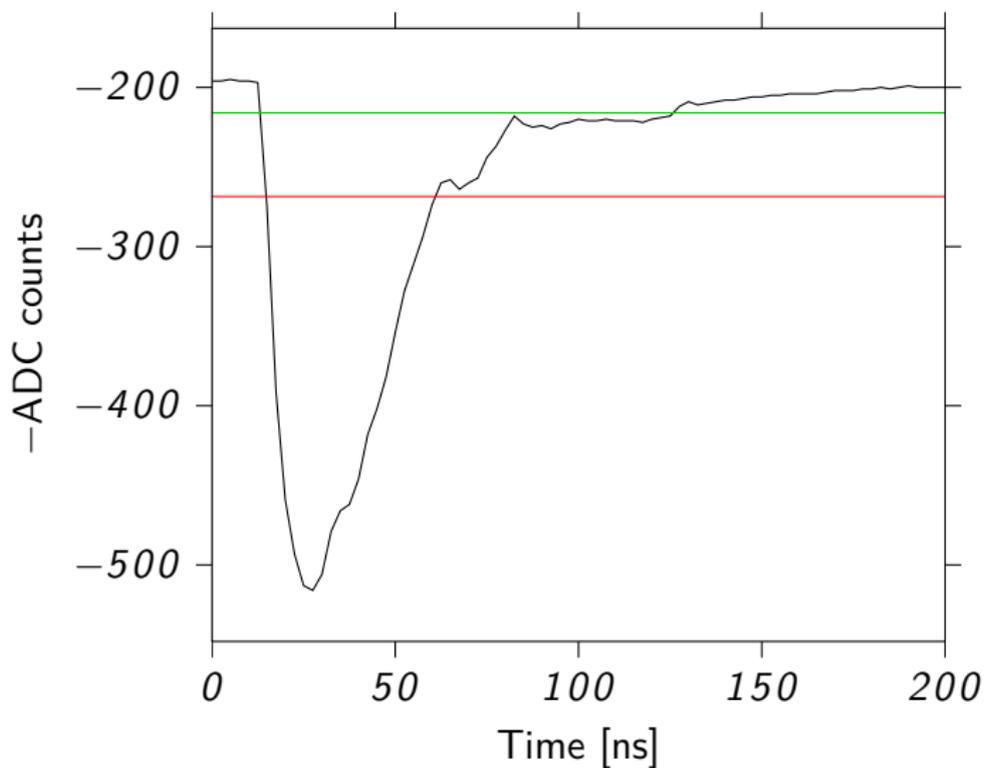
Timing



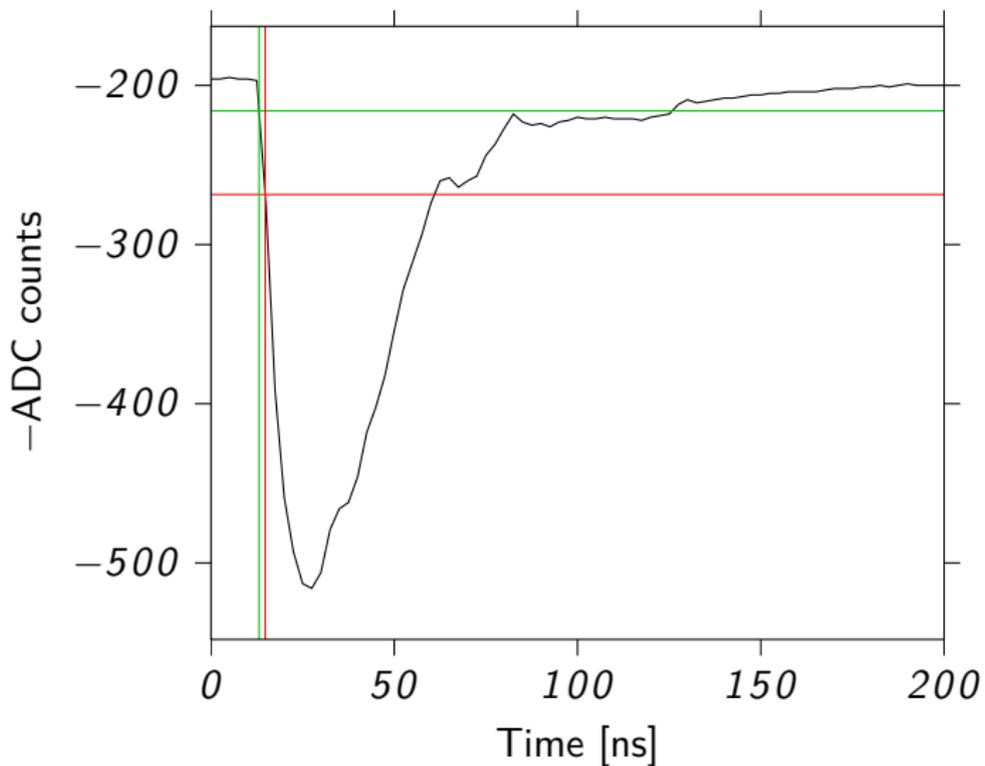
Timing



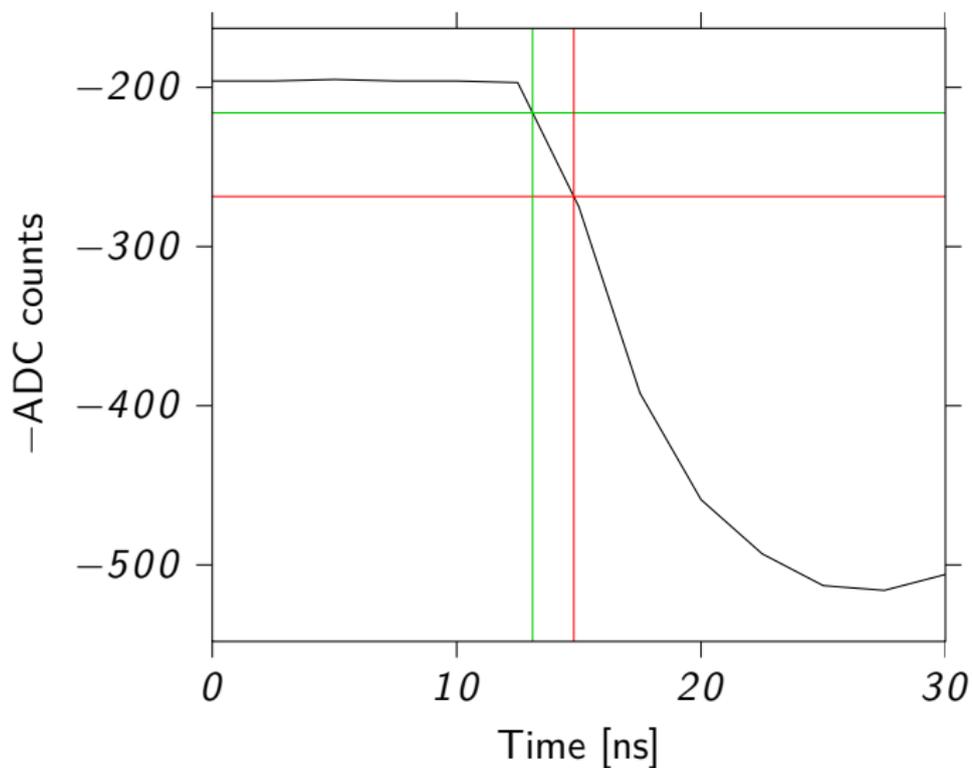
Timing



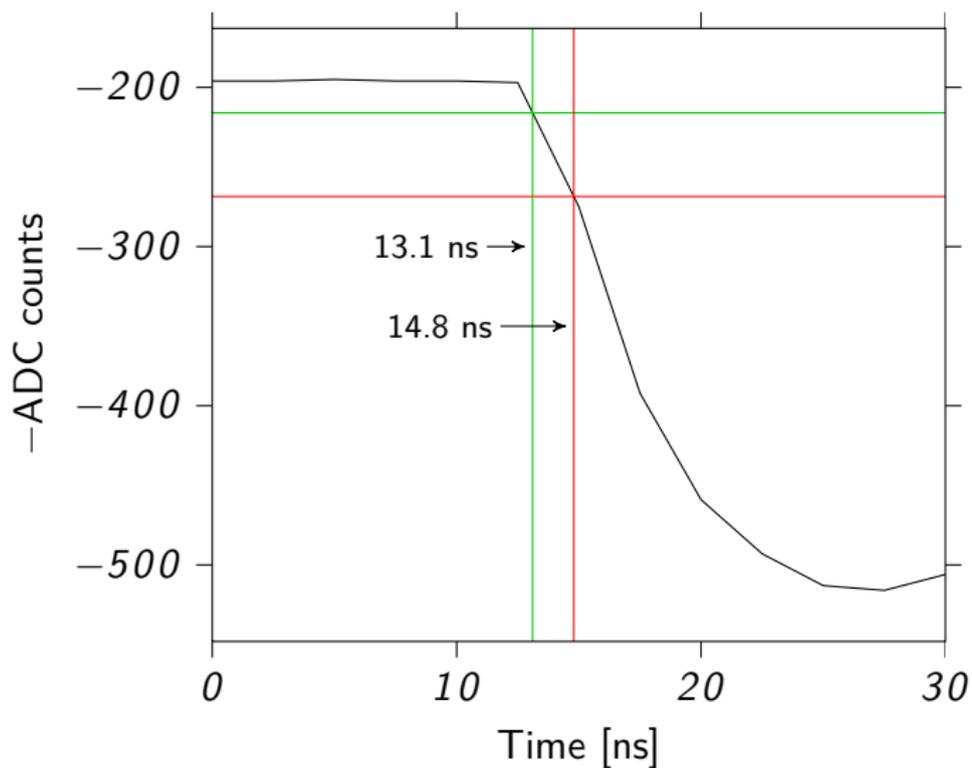
Timing



Timing



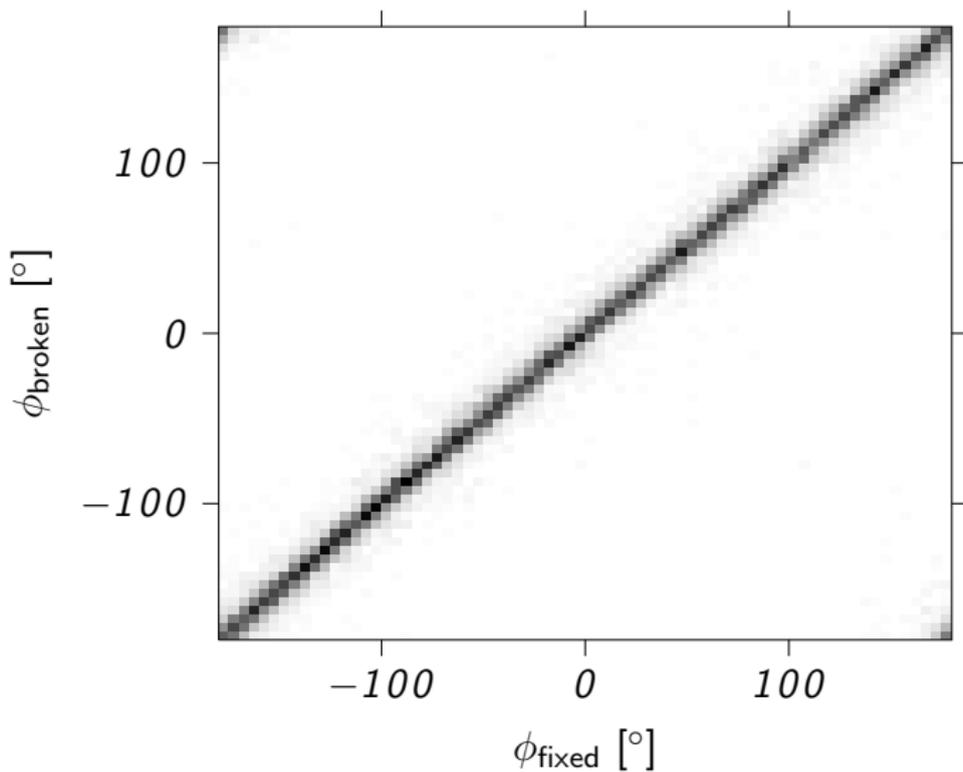
Timing



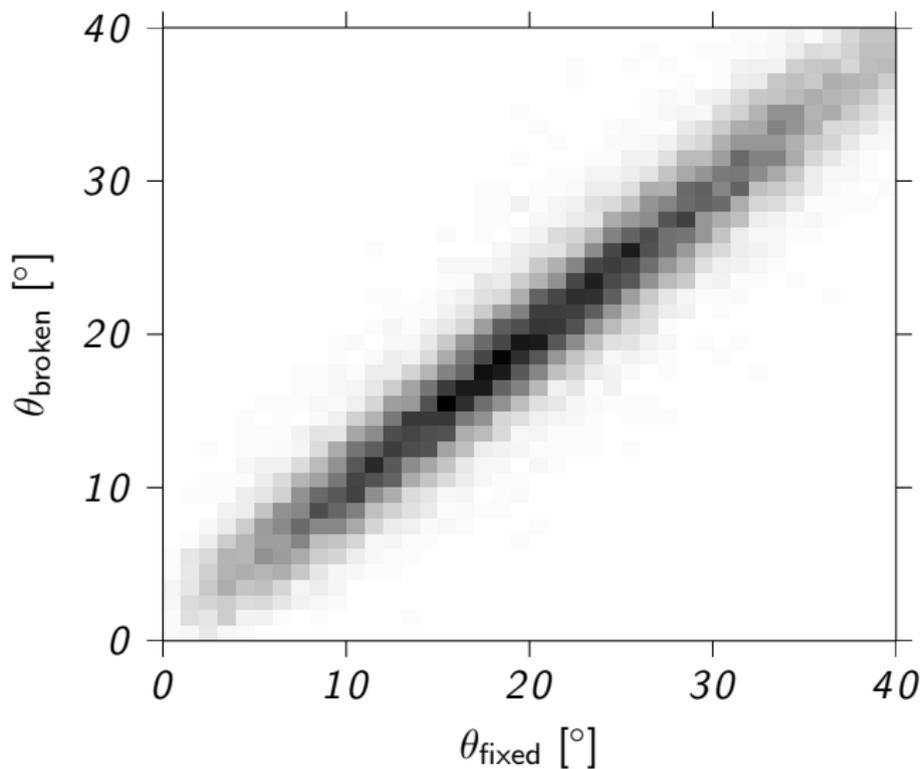
Outline

- 1 Problems with particle timing code
 - The problem
 - The impact
- 2 SAPPHiRE
- 3 API

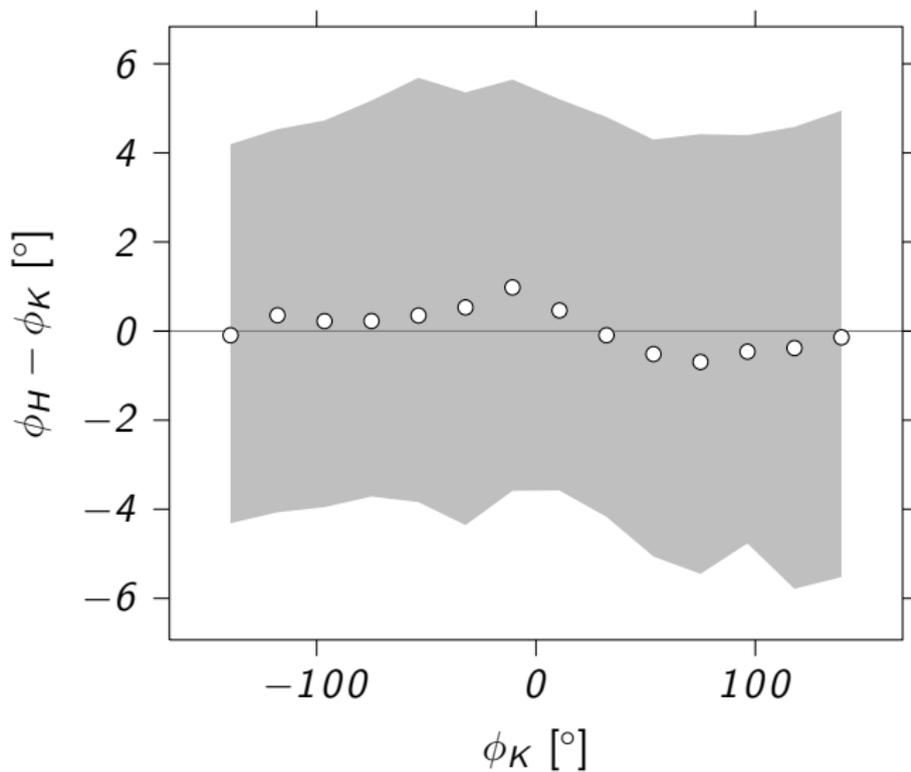
Results



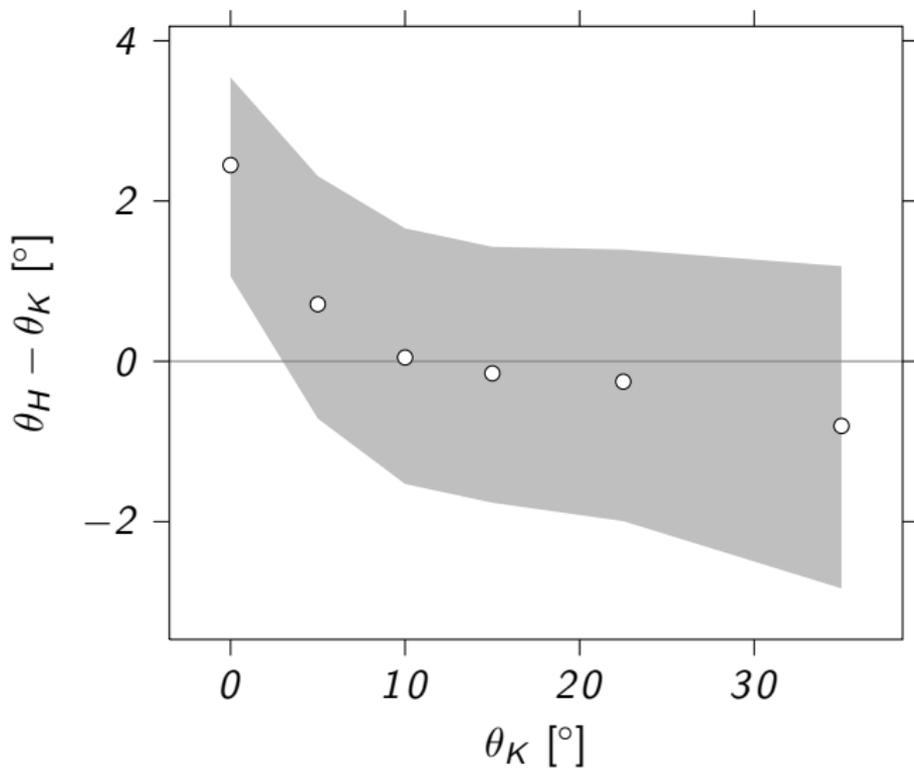
Results



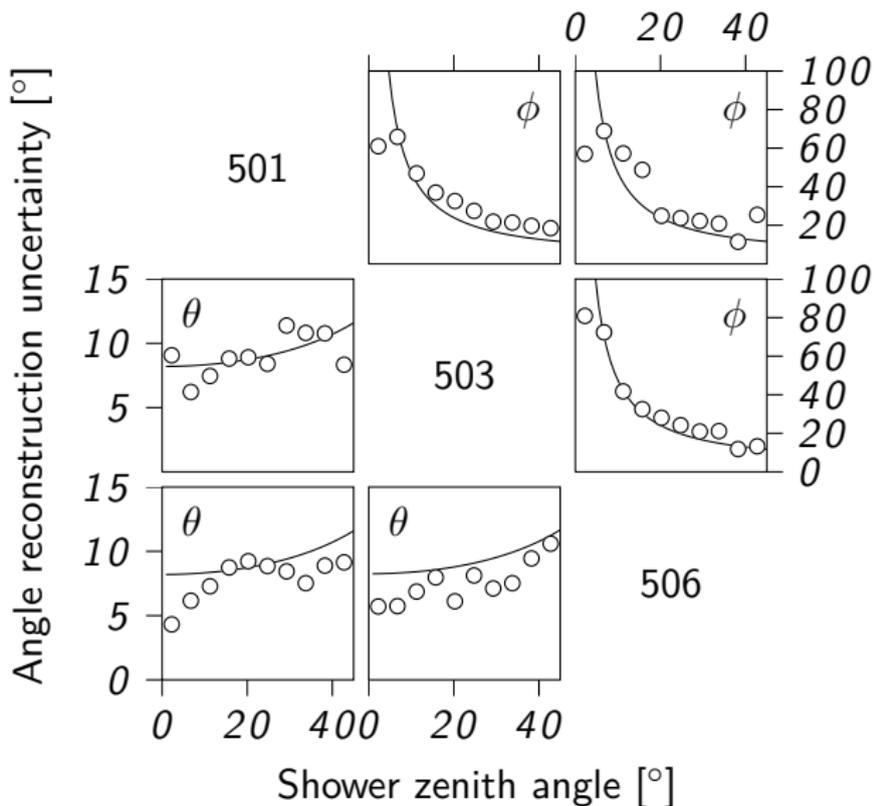
Results



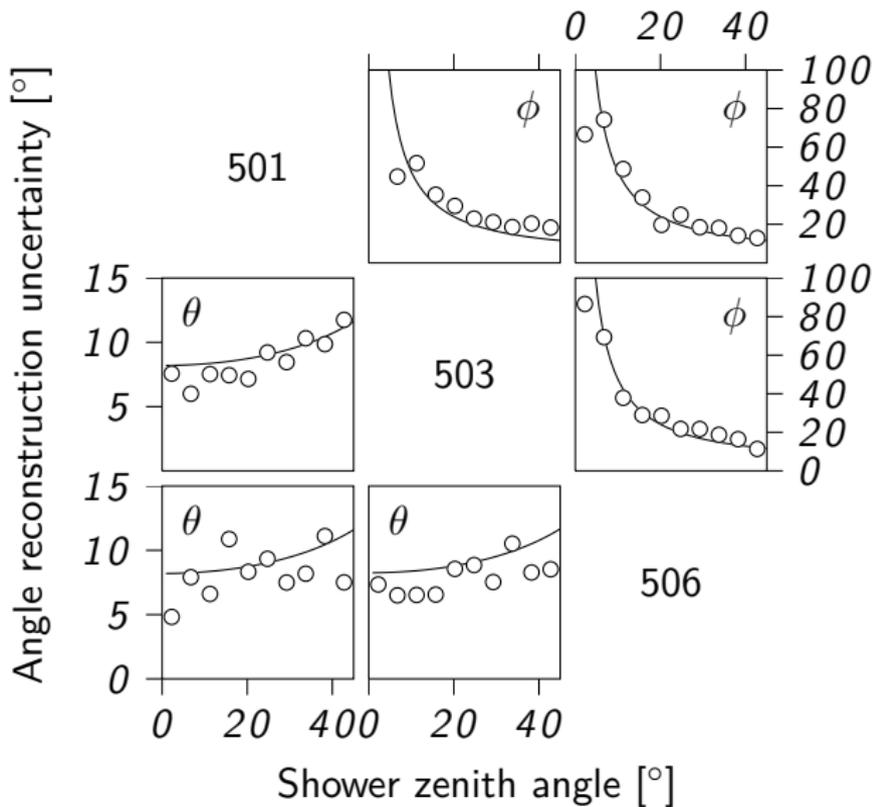
Results



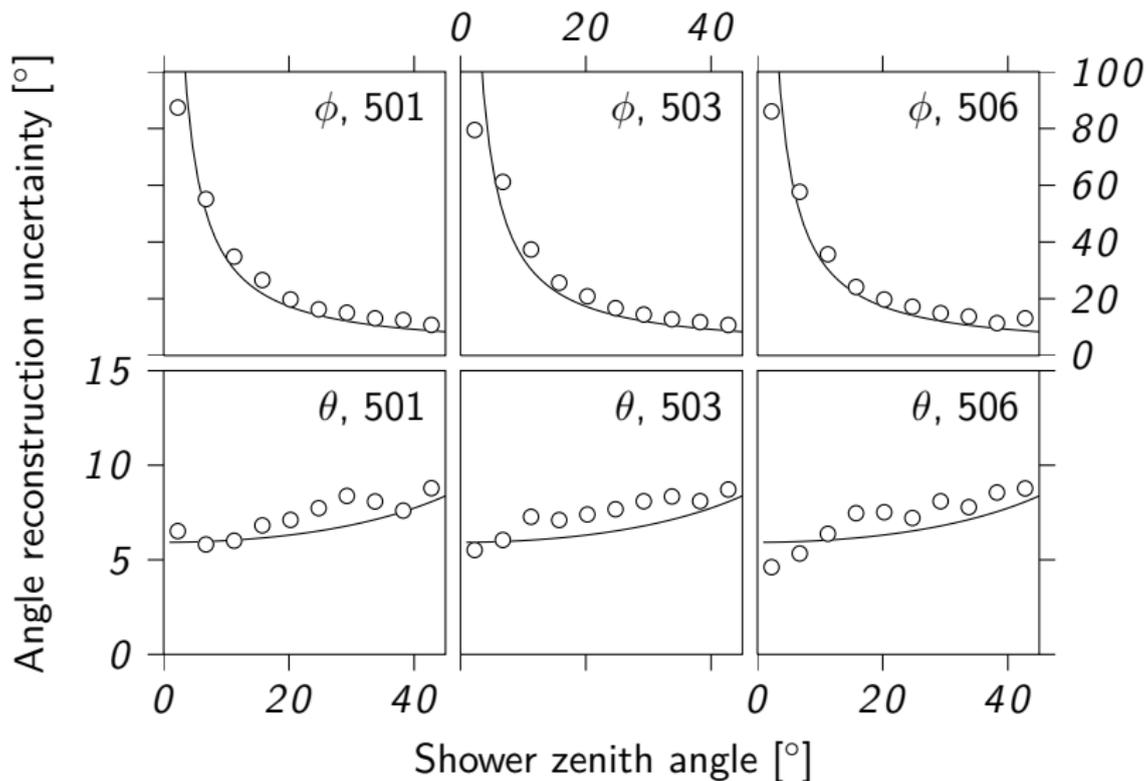
Results



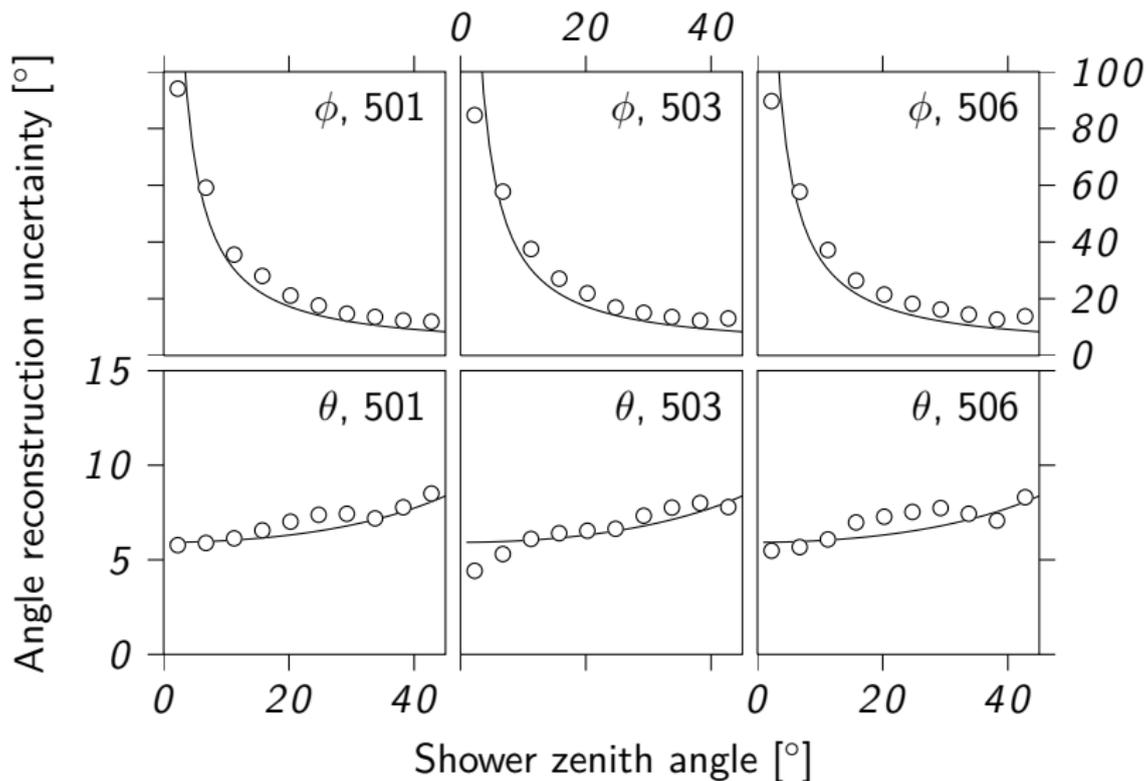
Results



Results



Results



SAPPHiRE Demo

Please stand by...

API Demo

Please stand by...