

Weekly report
(2019/06/03)

1. Sensitivity of Simpson's data

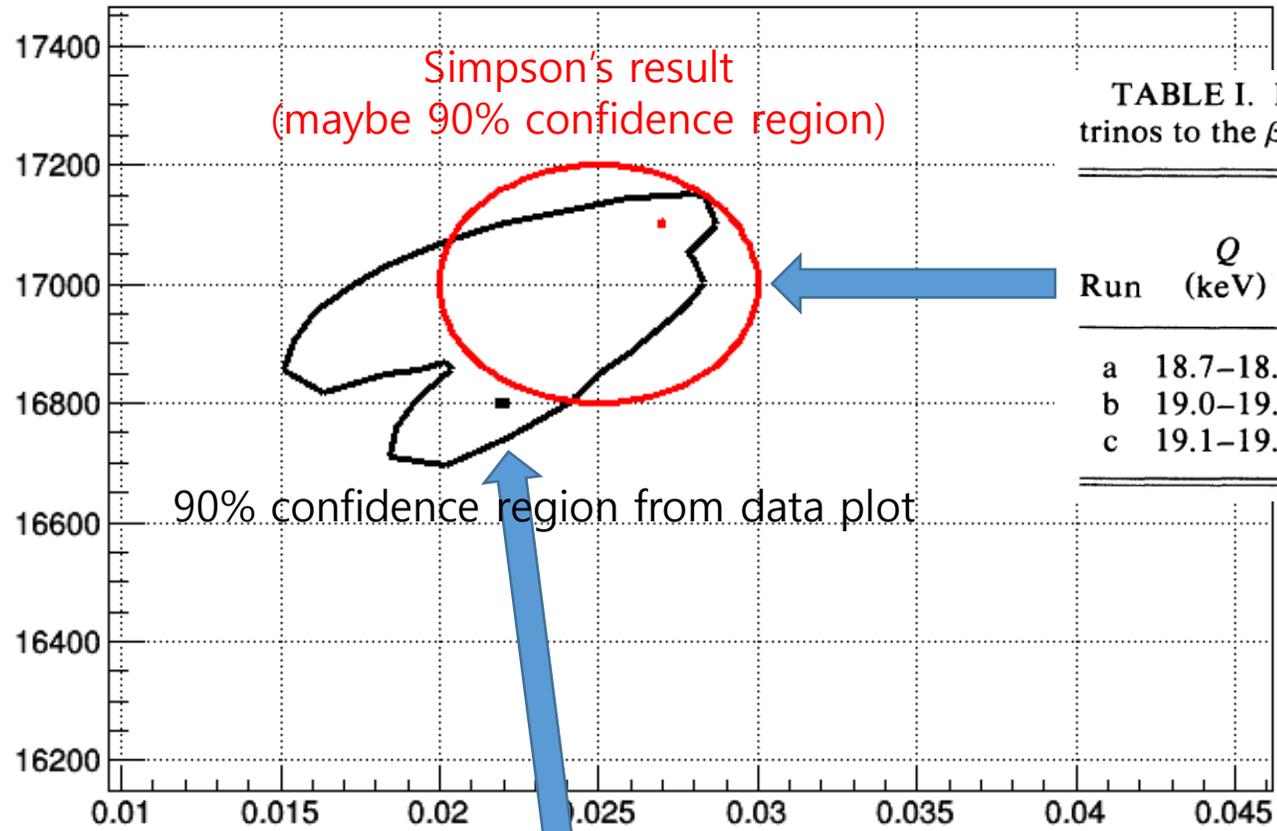
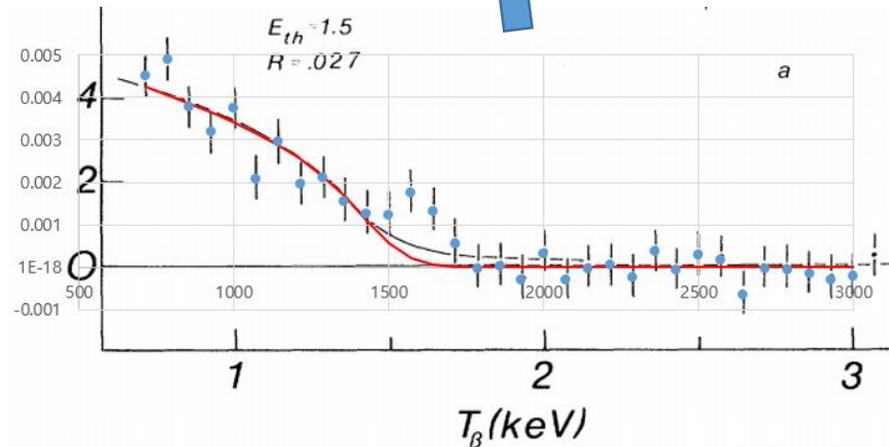


TABLE I. Parameters giving reasonable fits with two neutrinos to the β spectrum of tritium.

Run	Q (keV)	End-point energy for second neutrino (keV)	R	Minimum χ^2/ν
a	18.7–18.9	1.4–1.8	0.020–0.030	38/34
b	19.0–19.3	1.2–1.6	0.030–0.050	49/34
c	19.1–19.3	1.4–1.8	0.017–0.028	43/34



2. MMC test

- Measure the critical current of meander pick-up coil

: to check the allowable magnitude of current flowing in the pick-up coil for generation of magnetic field

status

MMC	# of tested (usable/broken)	Comment
1*1 mm ² , both side, 5% diff.	6(4/2)	
14*1.3 mm ² , both side, 5% diff.	1(1/0)	
0.3*0.3 mm ² , both side, 5% diff.	3(3/0)	One will be used in my test detector

- Measure the M-T curve

: to be done in this week, with 1.4*1.3 mm² and one side MMC

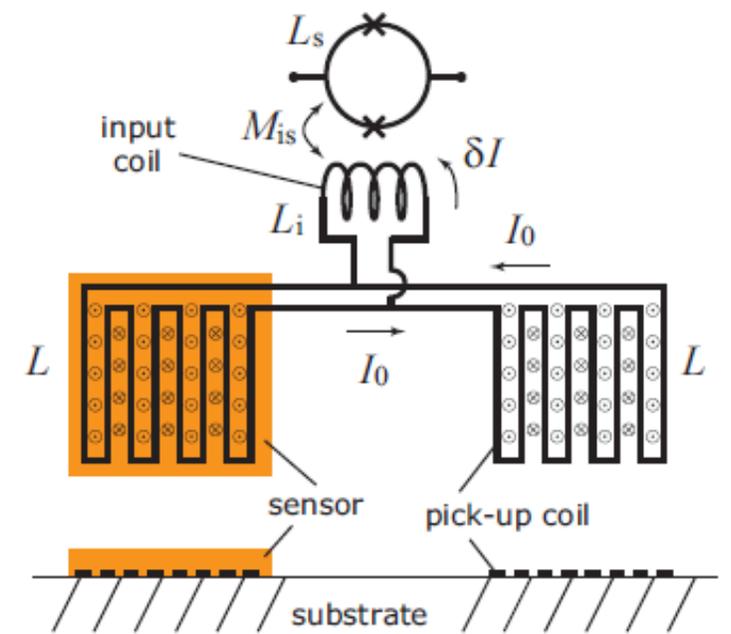


Fig. 2.4 Schematic diagram of meander-shaped MMC. A persistent current flowing through the meander coils supplies a magnetic field to the sensor.

We will use the MMC where

- sensors are placed in both side, : to cancel out the external temperature fluctuation
- and area of sensors are different in 5% : to measure the M-T curve to check the previously known parameters are well reflected in total