Mini Oral

中国科学技术大学
University of Science and Technology of China

An Extensible Induced Position Encoding Readout Method for Micro-pattern Gas Detectors

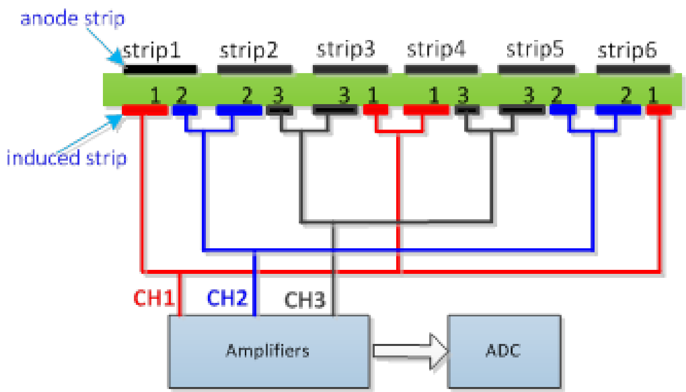


Fig. 1. Induced position encoding readout schematic

Chanel:comparsion	Strip:position
CH1>CH2	Strip 1
CH2>CH3	Strip 2
CH3>CH1	Strip 3
CH1>CH3	Strip 4
CH3>CH2	Strip 5
CH2>CH1	Strip 6

Table. 1. Decoding table of 3 readout channels

Row	Encoding list									
1	12	21								
2	13	32	23	31						
3	14	42	24	43	34	41				
k-1	1k	k2	2k	k3	3k	k4	…	k(k-1)	(k-1)k	k1

Table. 2. The encoding list of *n* readout channels

$$(xy)_i = \begin{cases} (n, k) & R = 1 \\ \left(k, \frac{R}{2} + k\right) & i = \text{even number} \\ \left(\frac{R-1}{2} + k, k\right) & i = \text{odd number} \end{cases}$$

$$i_{(x,y)} = \begin{cases} (y-1)\left(2n-\frac{2}{y}\right)+1 & \text{encoding: } ny \\ (y-1)(2n-y)+2(x-y)+1 & \text{encoding: } xy\ (x>y) \\ (x-1)(2n-x)+2(y-x) & \text{ending: } xy\ (x<y) \end{cases}$$

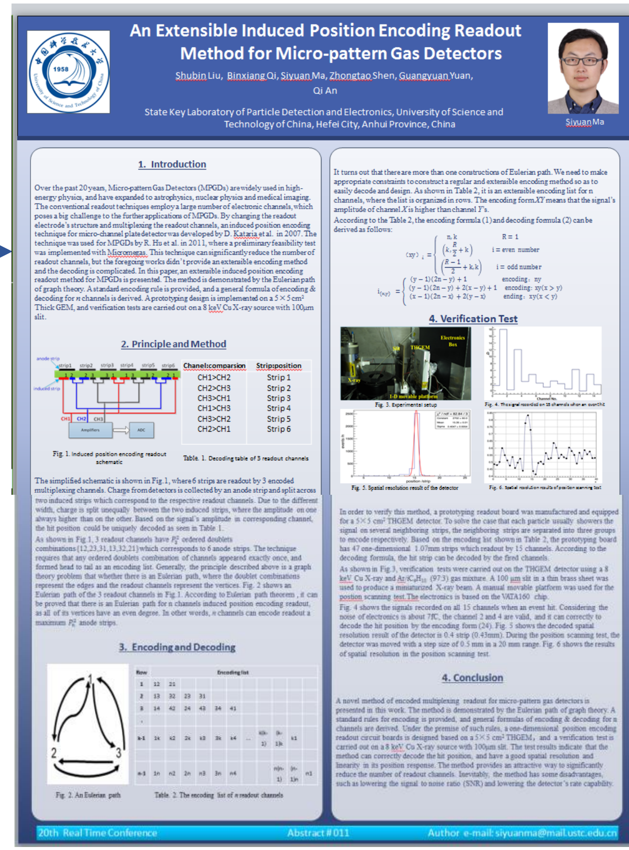
Decoding formula

Siyuan Ma

Poster

Introduction

Method



Encoding & Decoding
Experimental and results

Siyuan Ma