

GAS WG report

2017 Jan 31st
Melborne meeting
Kentaro Miuchi

•NEXT 1st Mar 9pm GMT

-  31 Jan CYGNUS Collaboration Meeting in Melbourne
-  25 Jan CYGNUS Paper & Simulation Meeting
-  18 Jan CYGNUS gas meeting

December 2016

-  13 Dec Neutron Background WG Meeting
-  01 Dec CYGNUS Paper & Simulation Meeting

November 2016

-  30 Nov CYGNUS gas meeting
-  02 Nov SF6 discussion

- 4 meetings (including 2 before authorized)
- Members: six groups listed in the next slide

September 2016

-  08 Sep SF6 discussion

- SF6 R&D status (as of 2017-01)

	New Mexico (D. Loomba)	Italy (E. Baracchini)	Hawai (S. Vahsen)	Japan (K. Miuchi)	Weaseley (J. Battat)	UK (N.Spooner)
Gain device	400um GEM(CERN)	3 × 50um GEM (Kapton,CERN)	3 × 50um GEM (Kapton,CERN)	100um GEM (LCP Sciency) +μ-PIC micromegas(Ray-tech 120um)	128um, (256um) micromegas (CERN)	400um GEM (UK)
Readout electronics	Single ORTEC amp	Timepix optical	Single amp	8+8 strips Liq Ar amp	single	single
Drift, max E	60cm 1kV/cm			1cm, 10cm 0.4kV/cm		
Pressure(Torr)	20-100	150-370 610 (mixture)		20-152	30-40	
55Fe Eres(σ)	25%	Landau		30%	~40%	
Max gain	3000	5000		2000	260	
Minority peak	SF5-, SF4-	Hint		hint		
fiducialization	PRIORITY! updates by upcoming JULY CYGNUS meeting					
others	Water contamination effect mobility measurement z-diffusion measurement			ASIC development		
ref	1609.05249			Proc. of MPGD2015		

backup

- SF6 meeting summary
(2016-09-08)

	Dinesh	Elisabetta	Sven	Kentaro	James
device	400um GEM(CERN)	3 × 50um GEM (Kapton,CERN)	3 × 50um GEM (Kapton,CERN)	100um GEM (Liquid Crystal Polymer, Scienergy)	120um gap micromegas (CERN)
Readout electronics	Single ORTEC amp	timepix	Single EV(?) amp	8+8 strips Liq Ar amp	single
Drift, max E	60cm 1kV/cm			1cm, 10cm 0.4kV/cm	
Pressure(Torr)	20-100	150-370		20-152	
55Fe Eres(σ)	25%	Landau	4%	30%	
Max gain	3000	5000	40000	2000	
Minority peak	SF5-, SF4-	hint		hint	
others	Water contamination effect mobility measurement z-diffusion measurement (comparison with thermal limit)				

