

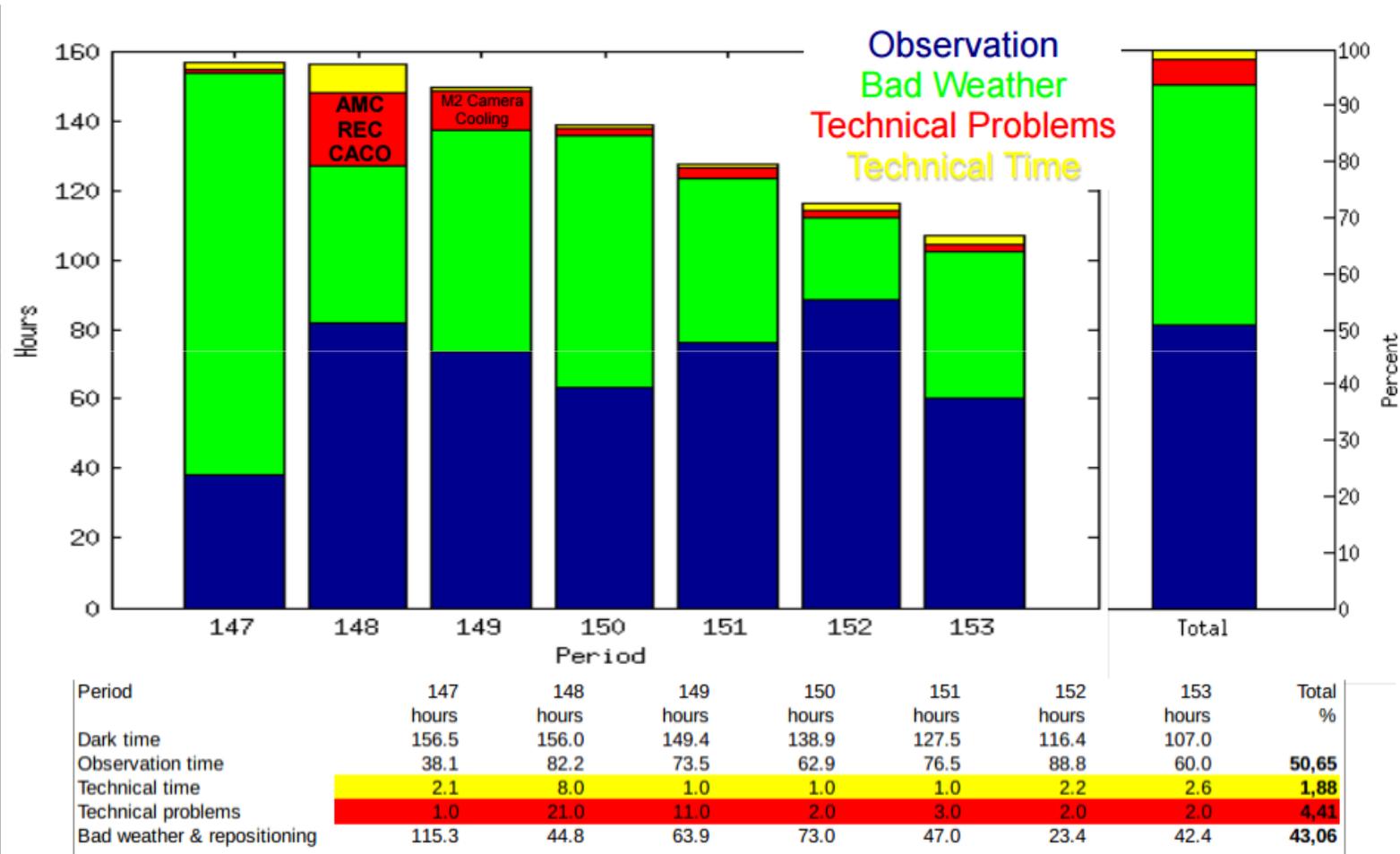
Magic – Preventivi locali di Spesa

- Attività 2015
- Preventivo locale di spesa 2016
- ~~Richieste ai servizi della Sezione~~



R. Paoletti – Pisa 10/7/2015

Data taking



Summary of the MAGIC publication pipeline (2015/06)

Papers in 2015: 10 published+3 submitted

13 papers = 8 AGNs, 3 Gal, 2 Technical

Remark: 3 papers published only in online in journal, but coordinates not yet available (Crab Nebula + 2 Upgrade papers)

- Papers being reviewed by editorial board: **2 (AGN + GAL)**
 - Papers circulating through MAGIC priv : **1 (AGN)**
 - Papers being reviewed by MAGIC internal referees : **2 (2AGN)**
 - Papers being reviewed by the corresponding science group: **5 (2AGN+2GAL+1AFPF)**
 - Other projects (not yet drafts, include recently-taken data) in preparation (**~44**)
- } **3 manuscripts to be submitted in 1-3 weeks**

GRB group:	1
Astroparticle group:	4
Galactic group (includes pulsars):	9
AGN group:	~30 papers

- **This year we will be again well above our “historical average” of 10 papers/year**

→ Note that by mid 2015 we have already reached 10 papers published.

- **Hopefully this time we will be able to publish ≥ 20 papers in one year**

→ Numbers are good for the time being... but quite some work needed in next months

MAGIC detects an increased activity from PKS 1510-089 at very high energy gamma-rays

ATel #7542; *Razmik Mirzoyan (Max-Planck-Institute for Physics, Munich), on behalf of the MAGIC collaboration*
on 20 May 2015; 19:25 UT

Credential Certification: Razmik Mirzoyan (Razmik.Mirzoyan@mpp.mpg.de)

FSRQ $z=0.36$

Discovery of Very High Energy Gamma-Ray Emission from the distant FSRQ PKS 1441+25 with the MAGIC telescopes

ATel #7416; *R. Mirzoyan (Max-Planck-Institute for Physics)*
on 20 Apr 2015; 02:09 UT

Credential Certification: Masahiro Teshima (mteshima@mppmu.mpg.de)

FSRQ $z=0.939$
25 sigma detection

Discovery of Very High Energy Gamma-Ray Emission from the FSRQ S4 0954+65 with the MAGIC telescopes

ATel #7080; *Razmik Mirzoyan (Max-Planck-Institute for Physics) on behalf of the MAGIC collaboration*
on 15 Feb 2015; 19:44 UT

Credential Certification: Razmik Mirzoyan (Razmik.Mirzoyan@mpp.mpg.de)

FSRQ $z=0.368$

Discovery of Very High Energy Gamma-Ray Emission From Gravitationally Lensed Blazar S3 0218+357 With the MAGIC Telescopes

ATel #6349; *Razmik Mirzoyan (Max-Planck-Institute for Physics) On Behalf of the MAGIC Collaboration*
on 28 Jul 2014; 14:20 UT

Credential Certification: Razmik Mirzoyan (Razmik.Mirzoyan@mpp.mpg.de)

FSRQ $z=0.944$
gravitationally lensed blazar
11.5 day from Fermi flare

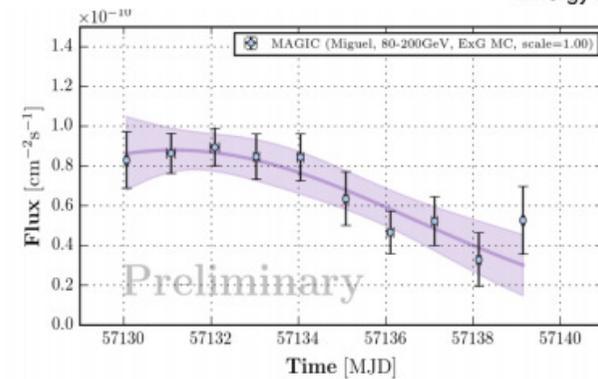
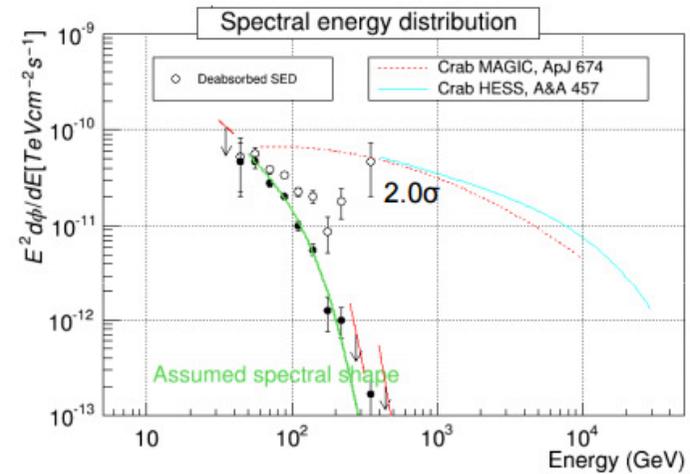
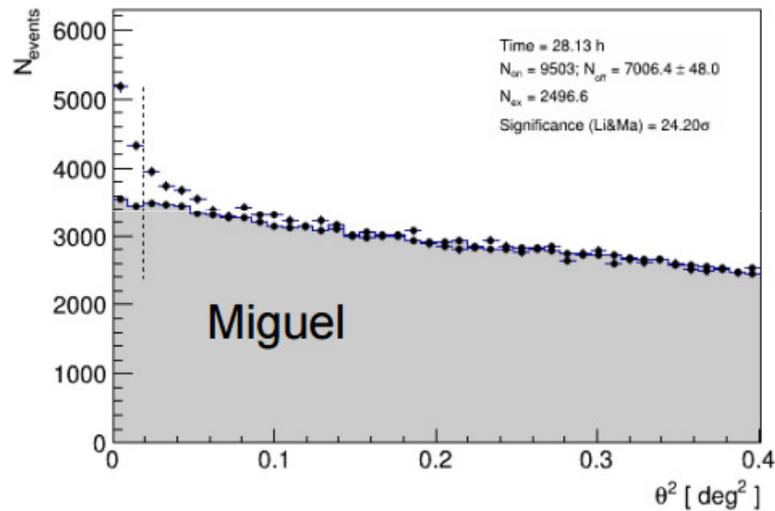
50+ AGNs detected in VHE, only 6 FSRQs:

<u>Source</u>	<u>Redshift</u>	<u>Discoverer</u>	<u>Year</u>
3C 279	0.5362	MAGIC	2006
PKS 1510-089	0.361	HESS	2009
4C +21.35 (PKS 1222+216)	0.432	MAGIC	2010
S30218+35	0.936	MAGIC	2014
S4 0954+65*	0.368	MAGIC	2015
PKS 1441+25	0.939	MAGIC	2015

* Classification is not clear, FSRQ/IBL/LBL

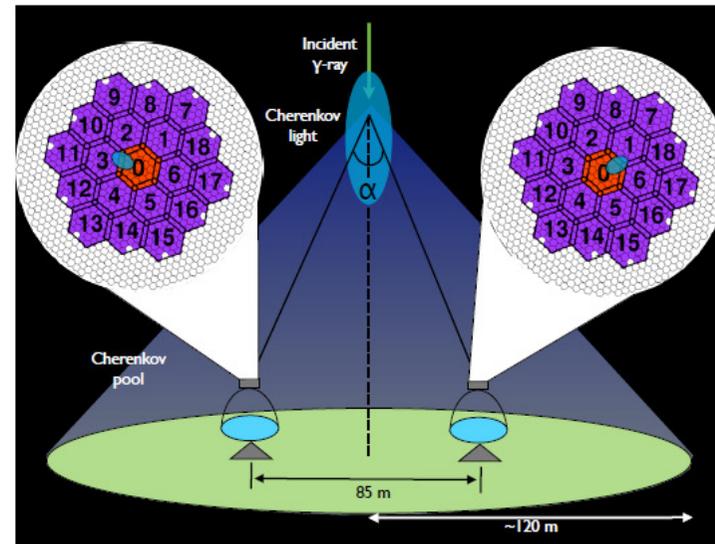
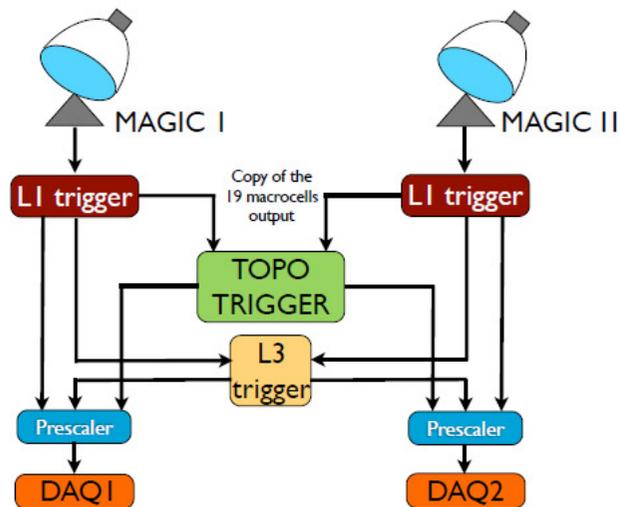
PKS 1441+25

$z=0.94$ source with ~ 25 sigma



Activities 2015

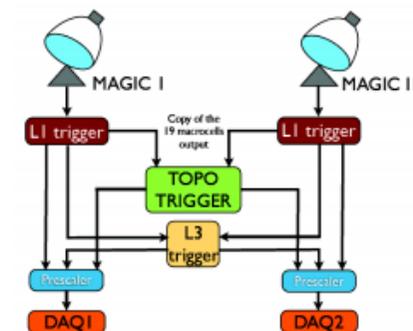
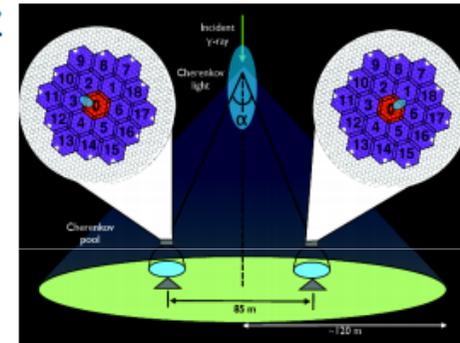
- Upgrade sistema di trigger per selezione topologica di eventi “topo trigger” – oral contribution at IEEE NSS/MIC 2015 S. Diego, CA, USA
- ✓ Upgrade sistema di trigger con nuova elettronica (2015)
- ✓ Cambio della frequenza di campionamento del readout (2015)
- Manutenzione del sistema di readout & trigger



Activities: Topo-trigger



- Reminder (presented in Sofia)
 - ▶ Taking into account topology of camera image
 - ▶ Topo: Z_d dependence, Super-Topo: $Z_d + A_z$
 - ▶ Installed 2014, collecting “parasitic” data
 - ▶ Threshold improves from 70 GeV to 65 GeV
- Super-Topo Crab data taken in March 2015
 - ▶ Taken at 600 Hz with lower DTs
 - ▶ Analyzed using experimental MCs
 - ▶ Sensitivity at low energies improves
- Conclusions / Outlook
 - ▶ Looks really promising
 - ▶ More checks on already taken data
 - ▶ Can gain 30% in E threshold after analysis
 - ▶ Need more Crab data before Cycle XI

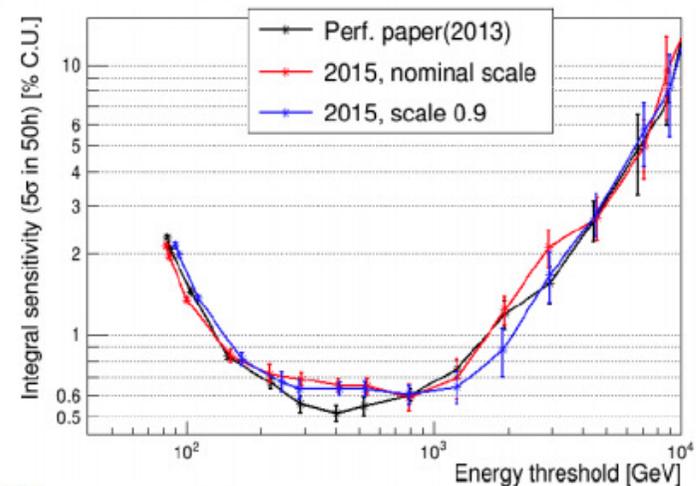
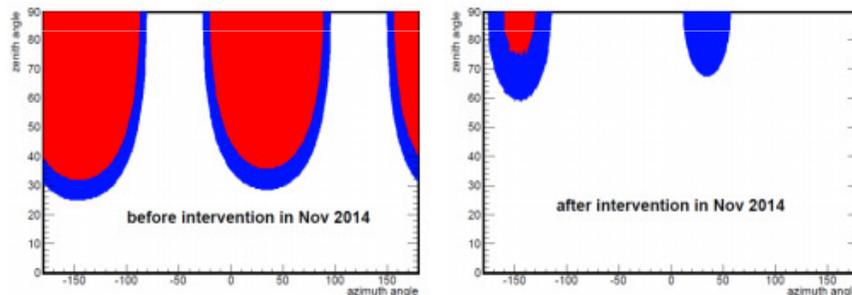


Oral contribution at IEEE NSS/MIC 2015 S. Diego, CA, USA

Activities:

Sampling rate

- Sampling speed changed from 2 GS/s down to 1.64 GS/s
- Dead-zone (almost completely) gone
- From technical side all works fine, physics performance being determined
 - ▶ Maybe problem at intermediate energy range
 - ▶ Reason unclear (see Julian's talk)



- Replaced prescaler
 - ▶ Removed many old obsolete boards.
 - ▶ Can change delays by software
 - ▶ Delay board to be removed in July 2015

Personale

			FTE
1	Roberto Carosi	INFN I ric	40
2	Paoletti Riccardo	Prof. Associato	50
3	Prada Moroni P.G.	Ricercatore	40
4	Shore Steven	Prof. Ordinario	30
5	Jose Miquel Miranda	Prof. Associato	50
6	Pedro Antoranz	Ricercatore	50
7	Diego Tescaro	Post Doc	50
8	Andrea Rugliancich	Dott.	50
9	Da Vela Paolo	As. Ric.	50
			410

Magic-Pisa richieste 2016

Capitolo		Richieste	Totale
Interno	Spostamento tra sedi	5	5
	Riunioni Analisi/Software		
Estero			22.5
	Turni Presa Dati	12	
	Turni Tecnici	12.5	
	Meetings di collaborazione	8	
Consumo	Manutenzione readout & trigger		15
Trasporti			
Inventario			
Apparati			
		Totale	42.5