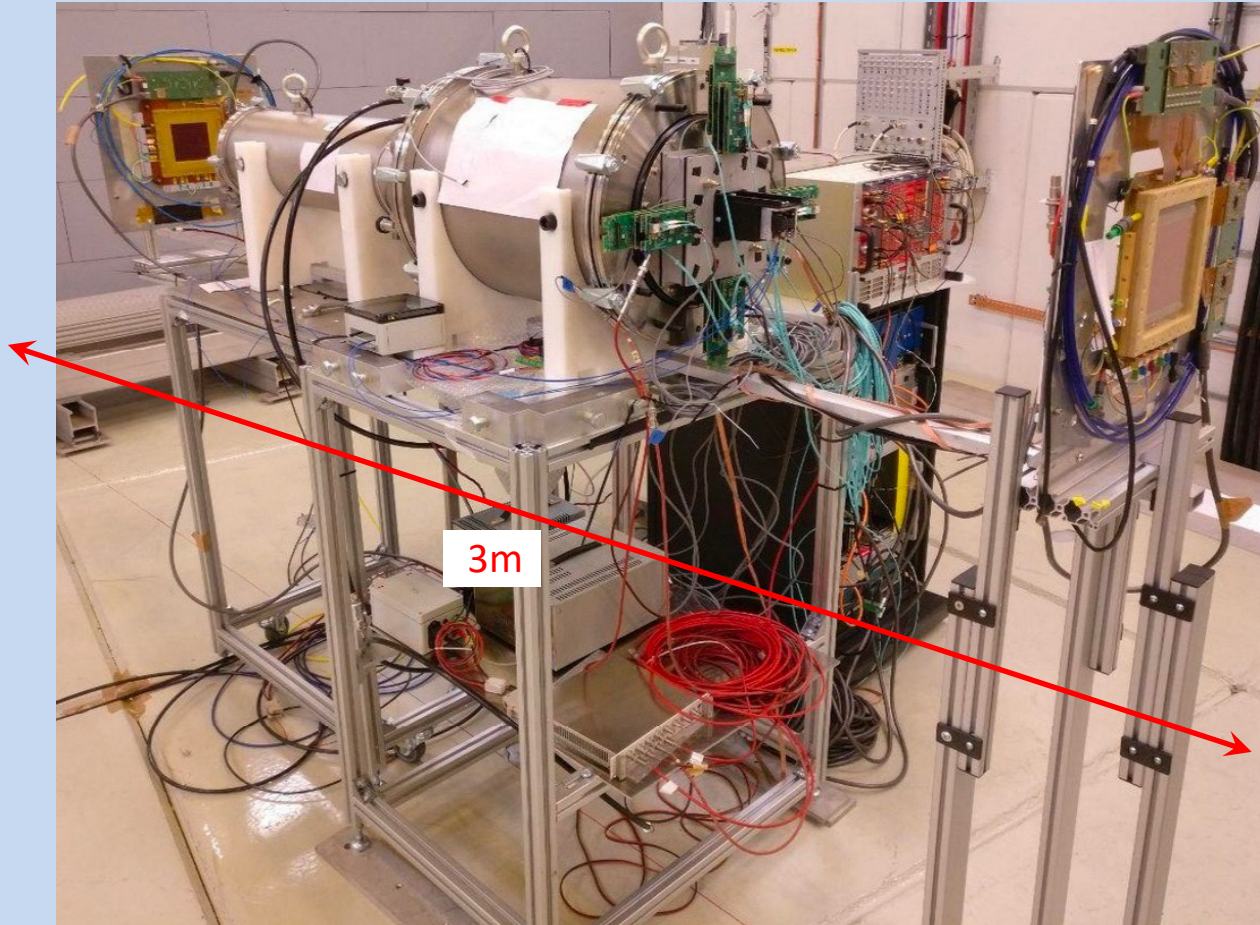


- Today:
- Test-beams (CERN initiated the auditions)
  - ALCOR (Submission of V2 foreseen in April)
  - Irradiation (New plan for TIFPA)

- Next:
- Software / simulations
  - Mechanics
  - LAPPDs



## Goals:

- Study dual radiator performance and interplay
- Study specifications and alternatives for optical components
- Test alternate single-photon detection systems
- Design parameters and optimization

Basic system  
commissioned  
in 2021 runs

New campaign to approach the design performance

1 week at SPS with 20-60 GeV/c hadron beams. + 120 GeV/c pencil proton beam

		Mar			Apr			Mai				Jun				Jul				Aug				Sep				Oct				Nov				Dec																			
Week		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50														
Machine																								TS1 RP																										TS2 Coldex RP					
North Area	T2 - H2				SPS & TT20 Setup 7	NA Setup 14	NA61 SHINE 16				CMS HGCAL 7	NA61 SHINE 7	EP FTS 7	Calice (SiW ECAL) 14	NA61 SHINE 35				STORM 7	KLEVER 7	CMS PIXELS 7	CMS OT 7	CMS HF 7	FASER pre shower 7	Placeholder 14	HERD 7	NA65 7	CMS HGCAL 7	LHCb 7	LHCb ECAL 14				ALICE FOCAL 7	SN0 7	NA61 setup 150 AGeV/c 7	NA61 150 AGeV/c 14	NA61 13 AGeV/c 7																	
	H6 parallel				RD42 9				ATLAS BCM 7					EP hybrid 7	ATLAS ITK PIXEL 14								CMS OT 7					EP hybrid 7	ATLAS BCM 7	RD50 7					EP hybrid 7	CMS PIXELS 7																			
	H6 ACONITE parallel				ATLAS ITK PIXEL 9				ATLAS HGTD 14	ATLAS ITK PIXEL 14				ATLAS ITK PIXEL 7	CMS PIXELS 7	ATLAS ITK STRIP 7	ATLAS HGTD 14				ATLAS ITK PIXEL 14	ATLAS ITK PIXEL 14				ATLAS HGTD 14	ATLAS ITK PIXEL 14				CMS PIXELS 7	ATLAS ITK PIXEL 14	ATLAS HGTD 14				ATLAS ITK PIXEL 7																		
	T4 - H8				SPS & TT20 Setup 7	NA Setup 14	LHCb 16				TOTEM 7					CMS MTD 14	ATLAS Tilecal 14	IDEA CC 7	LHCb 7	LHCb (TOTEM) 7	TOTEM / Q-ib 7	Medipix / Q-ib 7	ATLAS FCAL PULSE 7	IDEA DRG 7	TOTEM 7	ALICE PHOS 7	EIC dRICH 7	ALICE PHOS 7	UA9 14	LHCb / SELDOM 14				Placeholder 14	ATLAS Tilecal 12	NUCLEON 7				NA60+ 7	NA61 4														

2 weeks at PS with 0.5-12 GeV/c hadron beams + 0.5-5 GeV/c electron beams

		Mar			Apr			Mai				Jun				Jul				Aug				Sep				Oct				Nov				Dec																			
Week		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50														
Machine																								TS1 RP																										TS2 RP					
East Area	T8 - Irrad	EA Setup 14	EA-Irrad 245																								CHIMERA 14																												
	T9	EA Setup 14	LDMX setup 16	LDMX 14	NP07 14				PAN 7	ALICE FOCAL 10	SHERPA 14				TOTEM 7	MUonE CAL 7	BLAS 7	STORM 14	Gamma MeV 14	HERD 17	BL4S 14	EnuBet 14	ALICE PHOS 14	LHCb TORCH 28																															
	T10	EA Setup 14	ATLAS HGTD 9	ATLAS ITK PIXEL 14	ALICE ITS3 14				ALICE TOF 12	ProTOV 14				ALICE ITS3 14	ALICE TIMING 14					ALICE ITS3 7					ALICE ITS3 7	AN 7	EIC dRICH 14	ALICE RICH 14	ALICE TIMING 14	ALICE TOF 12																									

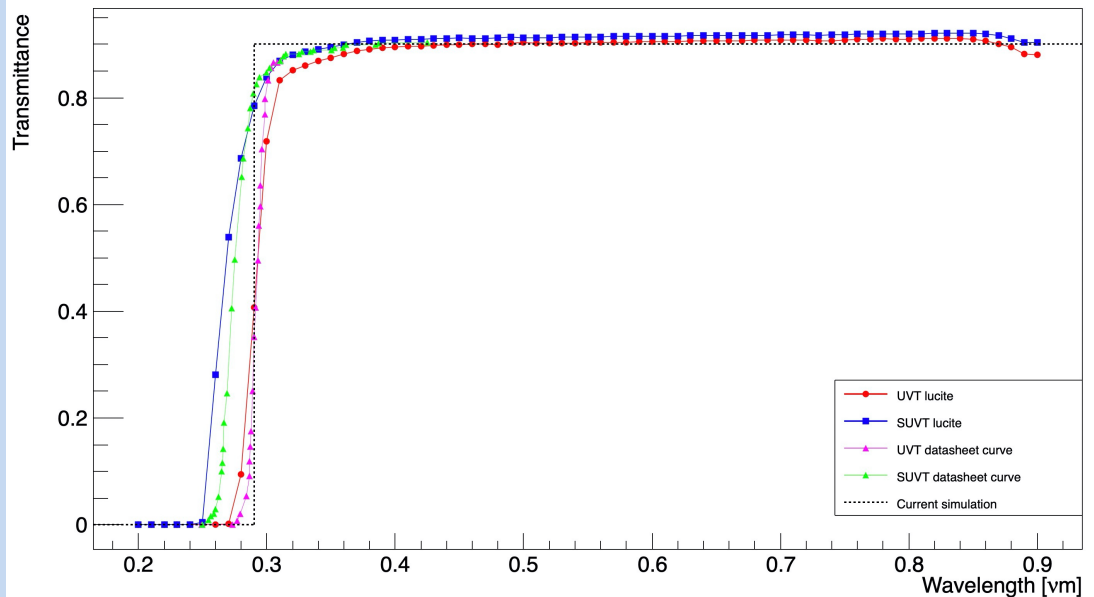
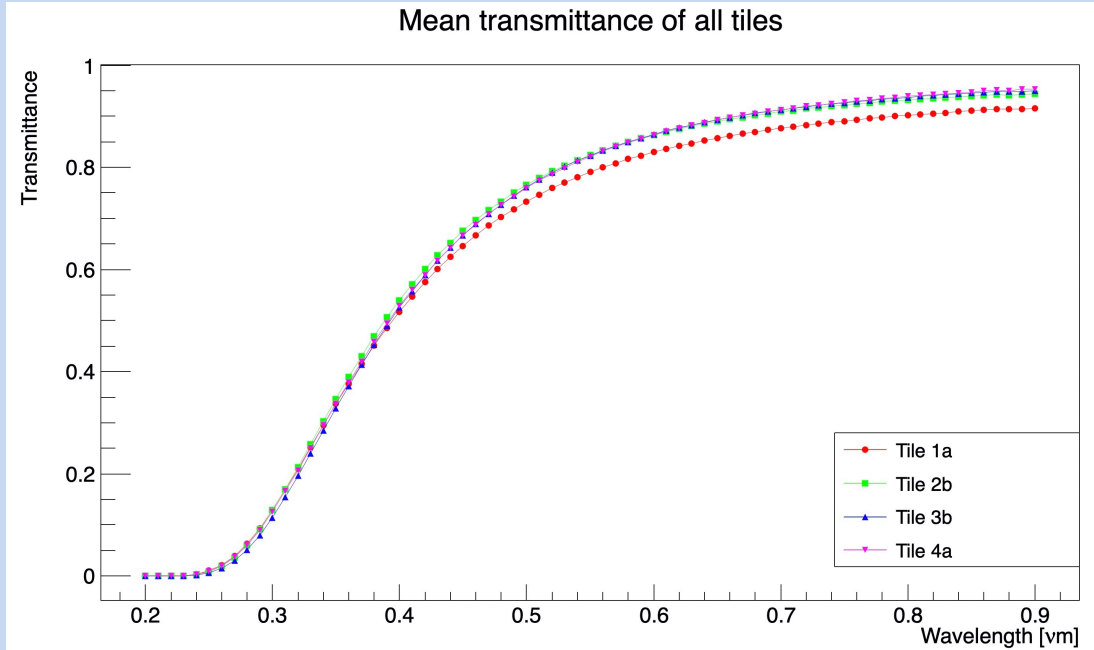
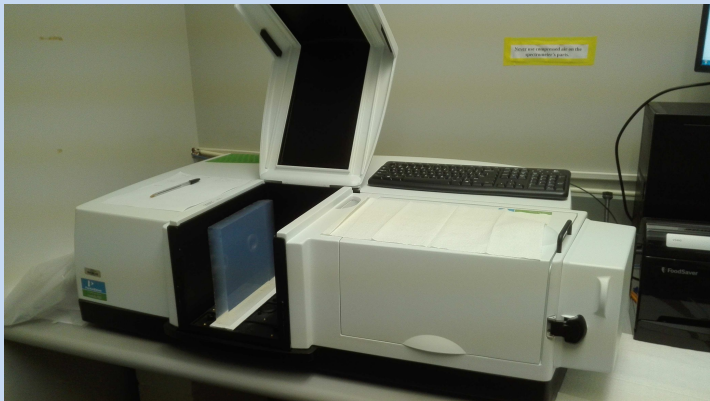
Aerogel

Japanese

Russian

Optical quality characterization  
Input for simulations and  
Performance optimization











Acrylic windows



## RICH Pattern Recognition Challenges

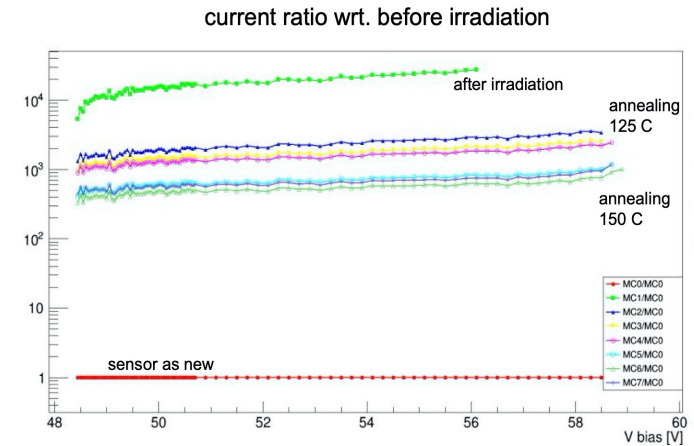


📅 Wednesday 6 Apr 2022, 15:00 → 18:00 Europe/Rome

- |              |         |   |       |   |
|--------------|---------|---|-------|---|
| <b>15:00</b> | → 15:05 | <b>Welcome and introduction</b><br>Speaker: Marco Contalbrigo (Istituto Nazionale di Fisica Nucleare) | 🕒 5m  |    |
| <b>15:05</b> | → 15:25 | <b>EIC and the new PID challenges</b><br>Speaker: Alexander Kiselev (Brookhaven National Laboratory)  | 🕒 20m |    |
| <b>15:25</b> | → 15:45 | <b>RICH at COMPASS</b> ¶<br>Speaker: Silvia Dalla Torre (Istituto Nazionale di Fisica Nucleare)       | 🕒 20m |    |
| <b>15:45</b> | → 16:05 | <b>RICH at HERMES</b><br>Speaker: Evaristo Cisbani (ROMA1)  | 🕒 20m |    |
| <b>16:05</b> | → 16:25 | <b>RICH at ALICE</b><br>Speaker: Giacomo Volpe (Istituto Nazionale di Fisica Nucleare)                | 🕒 20m |    |
| <b>16:25</b> | → 16:45 | <b>RICH at LHCb</b><br>Speaker: Carmelo D'Ambrosio (CERN, PH Dept.)                                   | 🕒 20m |    |
| <b>16:45</b> | → 17:00 | <b>RICH in Hall-A JLab</b><br>Speaker: Guido Maria Urciuoli (Istituto Nazionale di Fisica Nucleare)   | 🕒 15m |    |
| <b>17:00</b> | → 17:15 | <b>RICH at CLAS12</b><br>Speaker: Marco Contalbrigo (Istituto Nazionale di Fisica Nucleare)           | 🕒 15m |  |
| <b>17:15</b> | → 17:30 | <b>dRICH at EIC</b><br>Speaker: Evaristo Cisbani (ROMA1)  | 🕒 15m |  |
| <b>17:30</b> | → 18:00 | <b>Open Discussion</b>  | 🕒 30m |  |

Uniformate the treatment over the various SiPM

- **FBK SiPM carrier boards have been reworked**
  - solder paste used originally did not sustain  $T > 125\text{ C}$
  - sensors unmounted and remounted on boards with high-T solder paste
- **FBK SiPM carrier boards to anneal like Hamamatsu**
  - we stopped at  $T = 125\text{ C}$  for FBK annealing
  - we stopped at  $T = 150\text{ C}$  for Hamamatsu annealing
  - we should align them for a fair comparison
  - discussed with Ferrara, annealing of FBK will be carried out there
- **annealing at higher temperatures ?**
  - originally we foresaw to reach up to  $T = 175\text{ C}$  for annealing



More realistic and efficient irradiation

## test SiPM performance and annealing with increasing integrated NIEL

simulate a more realistic experimental situation

## irradiate full SiPM carrier boards with flat proton field

no collimators, his will make life much easier and very efficient use of beam

