



Cosmic Rays are everywhere

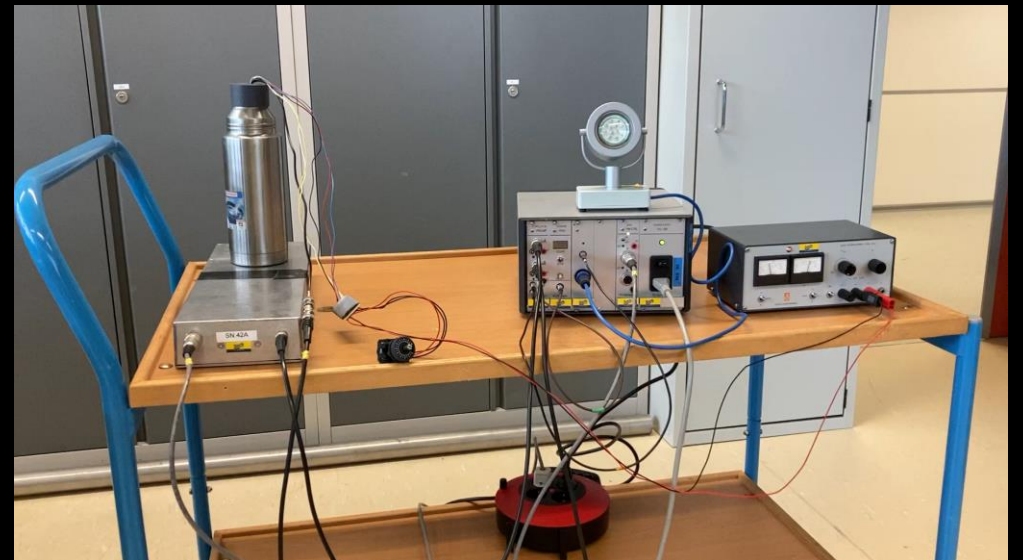
Charles Timmermans

A short introduction

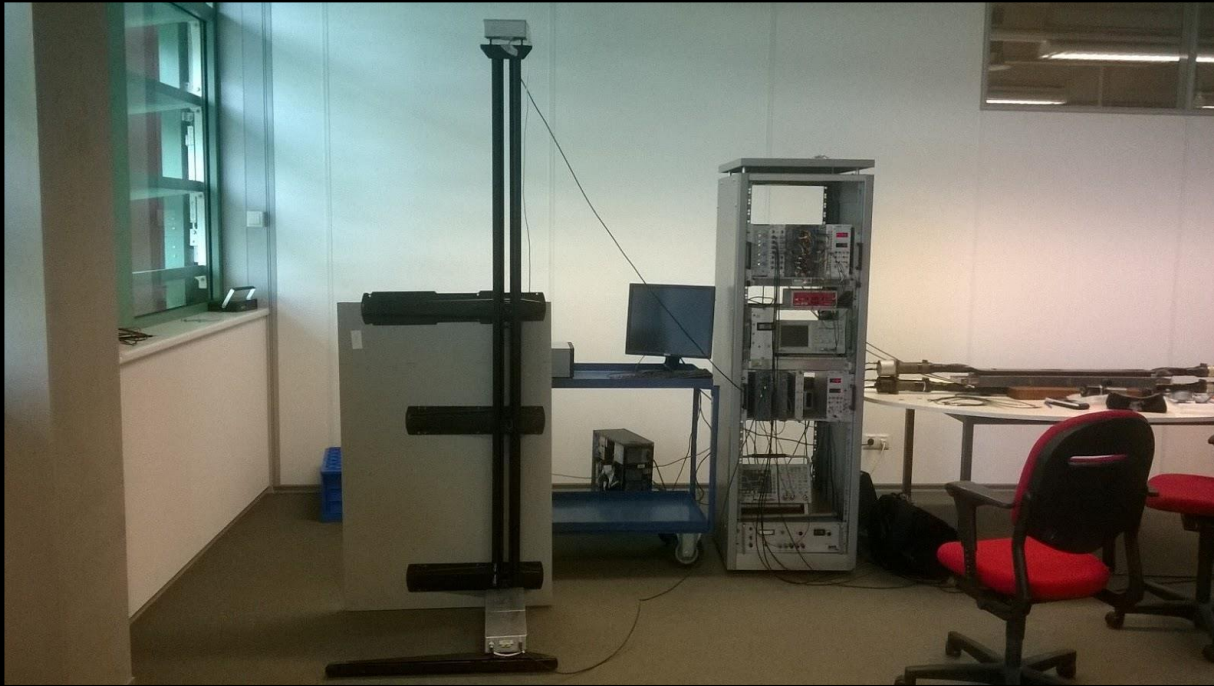
Does it affect you?



Animation Detector in Class



High School student Project: Speed muon



A boven			B boven		
h (m)	t ($10^{-9}s$)	v ($10^8 ms^{-1}$)	t ($10^{-9}s$)	v ($10^8 ms^{-1}$)	
0,96	3,68	2,6	3,4		2,
0,96	2,24	4,3	7,12		1,3
0,96	1,76	5,5	3,36		2,9
0,96	3,04	3,2	7,04		1,4
0,96	3,67	2,6	3,28		2,9
0,96	4,88	2,0	5,36		1,8
0,96	7,12	1,3	4,96		1,9
0,96	4,96	1,9	5,20		1,8
0,96	2,40	4,0	6,00		1,6
0,96	2,72	3,5	4,32		2,8
A boven			B boven		
h (m)	t (ns)	v ($10^8 ms^{-1}$)	t (ns)	v ($10^8 ms^{-1}$)	
2,07	6,48	3,2	8,88		2,3
2,07	6,32	3,3	8,32		2,5
2,07	6,32	3,3	7,76		2,7
2,07	4,00	5,2	8,72		2,4
2,07	4,96	4,2	7,92		2,6
2,07	6,24	3,3	8,08		2,6
2,07	8,68	2,4	5,44		3,8
2,07	6,56	3,2	5,28		3,9
2,07	5,28	3,9	1,15		1,8
2,07	7,20	2,9	9,76		2,1
2,07			6,96		3,0

Angular dependence



Measuring Air Showers: HiSPARC



In the past we have installed detectors on a series of high schools in the Netherlands and outside. Goal: Detect air showers and detect the arrival directions.

This has successfully operated for ~20 years. Now it is time for a new approach

KORSTMOS: Controlled Array



Public Data expected end of this year

Students will be allowed to modify setup



Outreach at the Pierre Auger Observatory



Take away message:

Cosmic rays are everywhere

You can explore them

at home

at school

Build your own detector

Use data obtained by scientists

The sky is the limit!