

# INTERNATIONAL COSMIC DAY

## BOOKLET 2017

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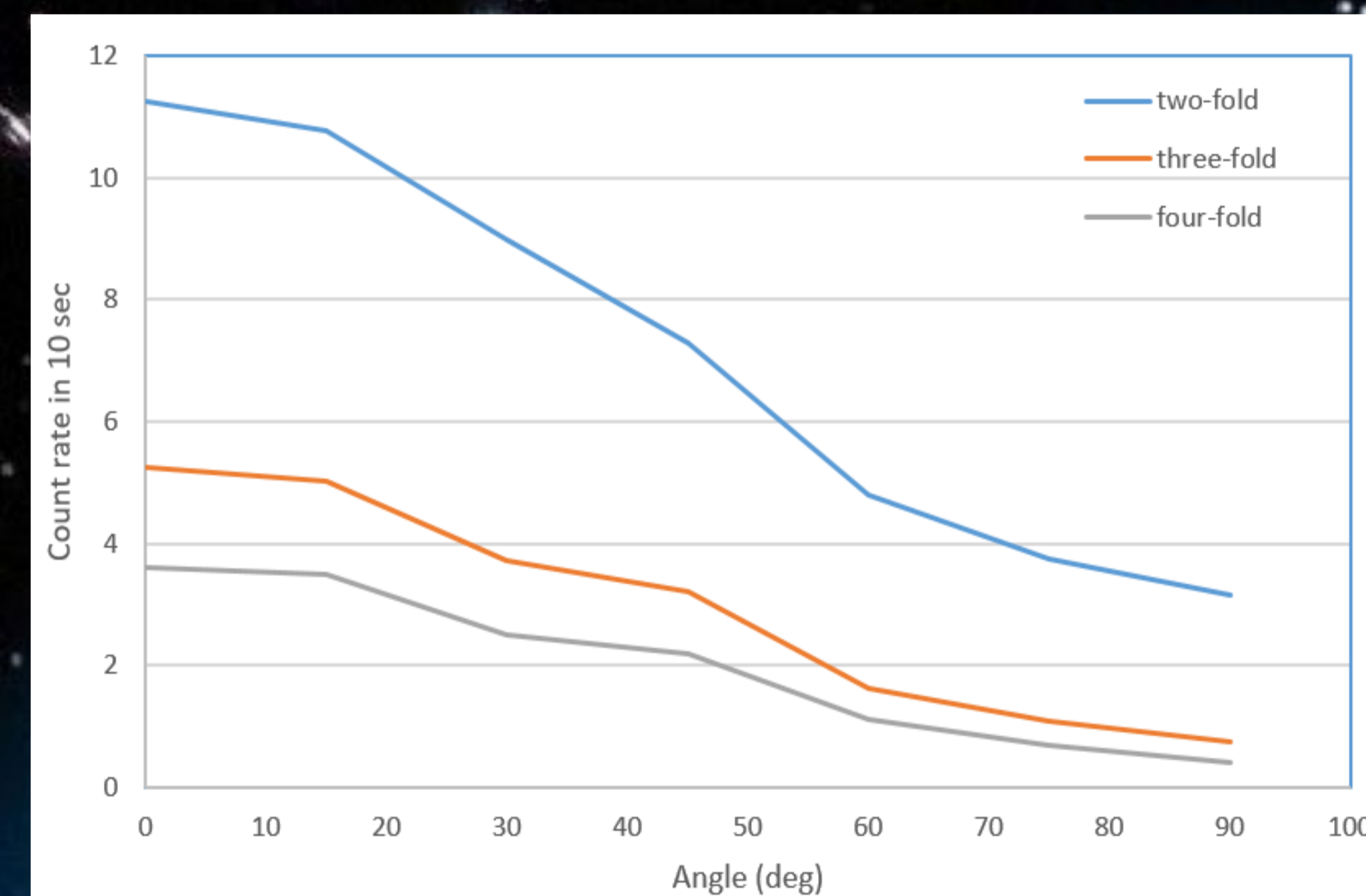
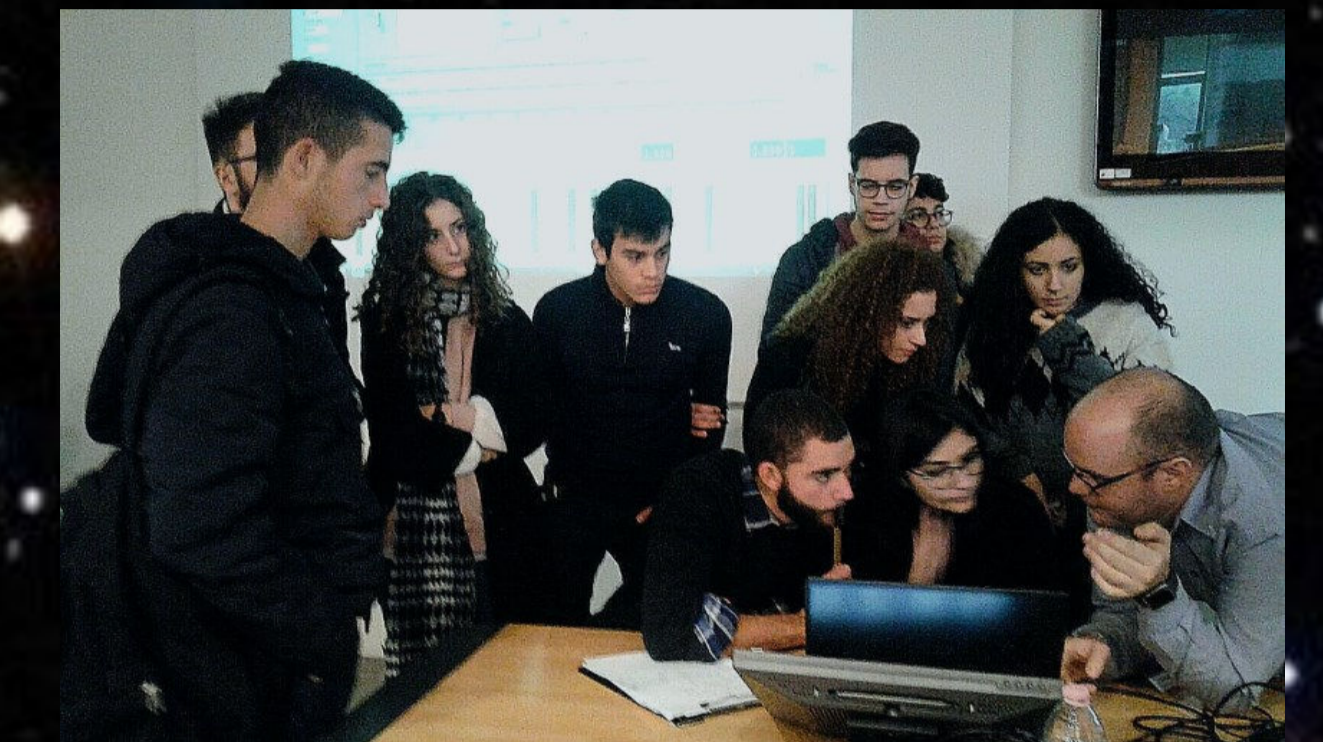


## DETECTION OF COSMIC RAYS



Cosmic rays are mainly atomic nuclei raining down on the Earth from the outside of the Solar System.

Today we know that galactic cosmic rays are atom fragments such as protons (positively charged particles), electrons (negatively charged particles) and atomic nuclei. So far we know they can be accelerated in supernovae, but there may be other sources available for cosmic ray acceleration.



This graphic describes the number of the cosmic rays passing through four levels of the ray detector, which measures them. The sensors x, y, z, w are respectively the first, the second, the third and the fourth level.

We measured the single count rate and the rate of two, three and four-fold coincidences as a function of the zenith angle from zero to 90 degrees. As expected the cosmic ray flux decreases with the increasing angle.

	x	y	z	w	xy	yz	zw	xyz	xzw	xyzw
0° Long	39,72	33,97	32,13	37,09	11,54	11,02	11,34	6,21	4,21	3,7
0°	38,04	31,93	30,14	34,33	12,08	10,88	10,82	6,338	4,18	3,6
15°	37,7	33,098	31,4	34,88	10,72	10,83	10,8	6,016	4,016	3,5
30°	37,56	31,54	30,23	33,57	9,22	8,661	9,07	4,633	2,83	2,5
45°	33,89	28,14	26,59	33,64	7,531	7,093	7,218	3,75	2,656	2,2
60°	30,51	26,21	26,01	34,22	4,79	4,71	4,9	2	1,22	1,1
75°	29,45	24,04	24,57	32,04	3,593	3,859	3,796	1,406	0,765	0,7
90°	29,21	24,828	23,32	31,79	3,156	3,14	3,14	1,046	0,453	0,41

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