COMBINATION OF RESULTS

- Instructions -

- We want to combine the data collected by all the groups in your collaboration during this exercise
- To do this during the exercise we fill the google excel doc with values of the Z boson masses we have found in the events analyzed.

https://docs.google.com/spreadsheets/d/ 1M8Js4TUGhHsbe70kBCHzQOPvhDoOZUuznSwQFIdGGXc/edit? userstoinvite=ndrrini3@gmail.com&ts=5a04268e&actionButton=1#gid=0

- There is a spreadsheet for ATLAS and one for CMS
- Each group has its own column that can be filled with the numbers of the Z boson mass computed

1. Fill the column with your values of event ID and Z boson Mass



2. Close to the column of the mass values you have **the frequency column**. In this column the tool automatically computes for you the **histogram of frequencies for your mass this distributions**.

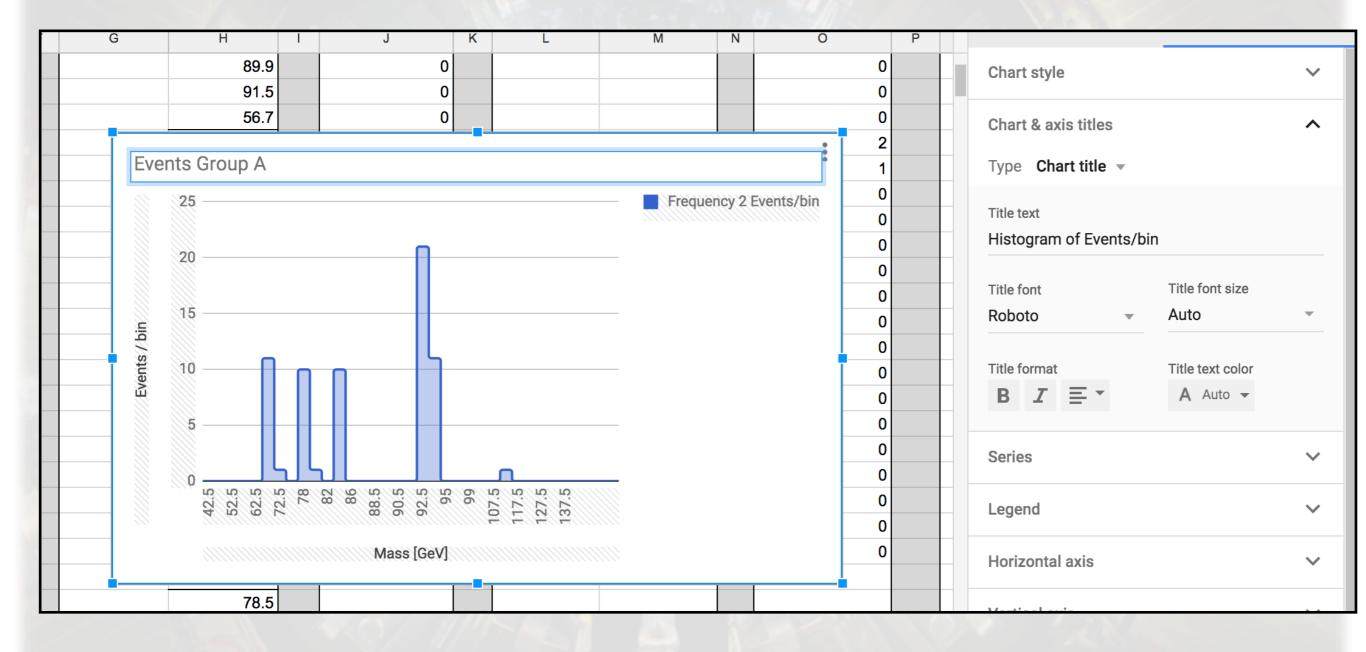
2. Bis This means that it counts how many events in your mass column go in each mass bin. The bins are defined in columns AA-AB

)	E	F
	Frequency A	
	Events/bin	
	0	
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0	
	0 0 0 0 0	
	0	
	0	
	0	

AA	AB
Intervals	Bins
0-35	17.5
35-40	37.5
40-45	42.5
45-50	47.5
50-55	52.5
55-60	57.5
60-65	62.5
65-70	67.5
70-75	72.5
75-77	76
77-79	78
79-81	80
81-83	82
83-85	84
85-87	86
87-88	87.5
88-89	88.5
89-90	89.5
90-91	90.5
91-92	91.5
92-93	92.5
93-94	93.5
94-96	95
96-98	97
98-100	99

3. Make the plot of your own group	fx 1 2 3 4 5 6	Test Image: Second
3.1 Select the Frequen<u>cy</u> column of your group and click on the plotting	7 8 9 10 11 12 13	
chart icon	14 15 16 17 18 19 20 21 22 23 24 25	
Test \swarrow \blacksquare File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive \blacksquare \frown \blacksquare \bullet <	26 27	

4. Customize your plot fixing axis labels, title, style



5. Put together all the data from all the group from the same collaboration and produce the **combined plot** repeating steps 2-4

U	V	W	Х	Y
	All Groups			Frequency All Groups
	Event ID	Mass [GeV]		Events/bin
				0
				0
				0
				0
				0
				0
				0
				0
				0
_				0
				0
				0
_				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0
				0

AND NOW LET'S COMBINE CMS AND ATLAS RESULTS!