



The new calorimeter in simulation geometry

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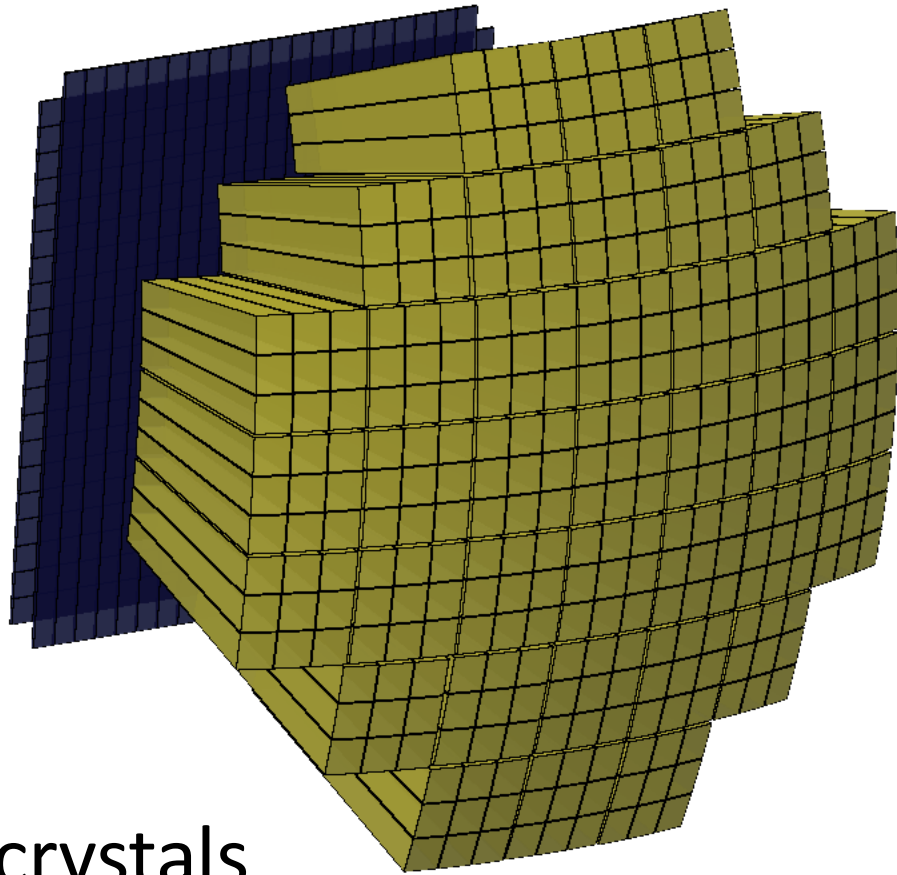
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Introduction

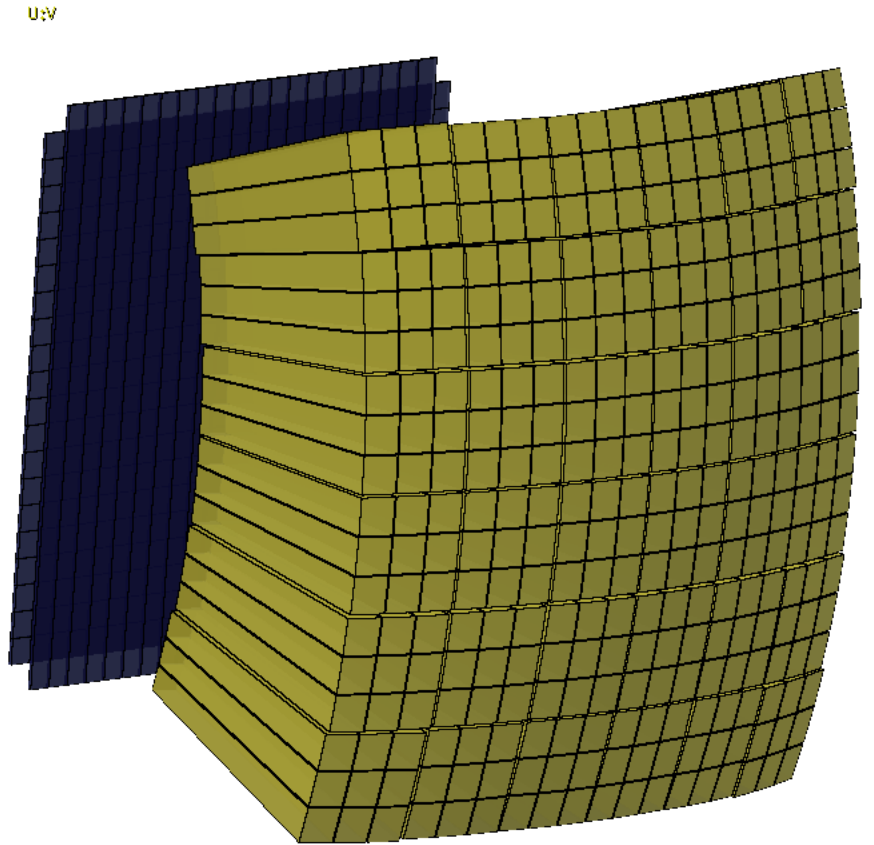
- E. Lopez Torres has successfully implemented the implementation of the new geometrical design of the calorimeter
- The necessary software has been uploaded in SHOE newgeom branch:
 - Libraries/TACAbase/TACAprGeo.cxx
 - Reconstruction/macros/BuildCaGeoFileV2.C

Old geometry



333 crystals
37 modules

New geometry



324 crystals
36 modules₃

The new design optimizes
matching with TW acceptance

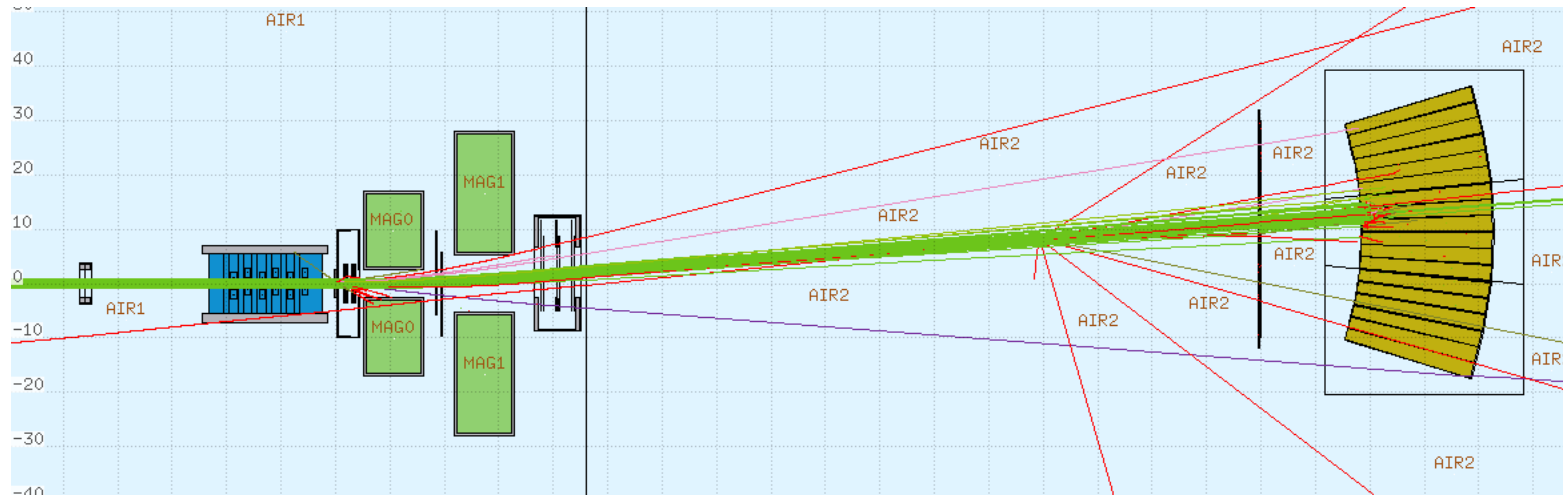
New mapping of crystals and modules (back view)

0	1	2	9	10	11	18	19	20	27	28	29	36	37	38	45	46	47
3	4	5	12	13	14	21	22	23	30	31	32	39	40	41	48	49	50
6	7	8	15	16	17	24	25	26	33	34	35	42	43	44	51	52	53
54	55	56	63	64	65	72	73	74	81	82	83	90	91	92	99	100	101
57	58	59	66	67	68	75	76	77	84	85	86	93	94	95	102	103	104
60	61	62	69	70	71	78	79	80	87	88	89	96	97	98	105	106	107
108	109	110	117	118	119	126	127	128	135	136	137	144	145	146	153	154	155
111	112	113	120	121	122	129	130	131	138	139	140	147	148	149	156	157	158
114	115	116	123	124	125	132	133	134	141	142	143	150	151	152	159	160	161
162	163	164	171	172	173	180	181	182	189	190	191	198	199	200	207	208	209
165	166	167	174	175	176	183	184	185	192	193	194	201	202	203	210	211	212
168	169	170	177	178	179	186	187	188	195	196	197	204	205	206	213	214	215
216	217	218	225	226	227	234	235	236	243	244	245	252	253	254	261	262	263
219	220	221	228	229	230	237	238	239	246	247	248	255	256	257	264	265	266
222	223	224	231	232	233	240	241	242	249	250	251	258	259	260	267	268	269
270	271	272	279	280	281	288	289	290	297	298	299	306	307	308	315	316	317
273	274	275	282	283	284	291	292	293	300	301	302	309	310	311	318	319	320
276	277	278	285	286	287	294	295	296	303	304	305	312	313	314	321	322	323

0	1	2	3	4	5
6	7	8	9	10	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

Implementation in Simulation

We have initially tested with success the new calo design within the 12CFull_MC campaign



The new geometry design is also simpler from the point of view of codin: there are less subdivisions of the the AIR region, → *but this changes region numbering*

Next steps

- Now we are in the situation of having a new, hopefully final, calorimeter geometry and the experimentally measured magnetic map
- We have 2 options:
 - Commit the new items in the 12CFull_MC campaign
 - Create a new campaign: 12CFull24_MC
- We prefer the solution of implementing a new campaign, to avoid problems to people already using the 12CFull_MC campaign, especially because of the changes in region numbering
- To be approved