

Trigger Content and Function in Release 14

The purpose of this page is to outline the **goals** for content and function of the offline trigger data at each level of the EDM (RDO/ESD/AOD/DPD/TAG) in Release 14. Size depends on menu and event type, so numbers given are estimates based on rel 13 default menu on ttbar events.

Trigger functions can be broken down into:

- full detailed analysis of trigger objects and all their properties
- re-running hypothesis algorithm to study optimizing algorithms and systematic uncertainty on efficiency
- did a trigger fire or not

RDO

...

ESD

Function: study all trigger objects in full detail, re-run hypo, retrieve trigger decision

Content: of ESD is expected to remain basically the same as in release 13.

Size: 200kB

AOD

Function: re-run hypo, retrieve trigger decision, other functionality?

Content: should AOD objects be 'thinned' to the minimum required to re-run hypothesis algorithms?

Size: 50kB

DPD

Function: retrieve trigger decision

Content: only what is necessary to retrieve the trigger decision (name or just chain ID?)

Size: 2kB

TAG

...

Cut Values EDM

Question: "What is the minimum possible trigger EDM size that one can retrieve the variables the hypo algos actually cut on?"

To answer the question, I'm asking each slice coordinator for a list which contains the minimum number of variables (float, int, etc.) required to run their hypo algorithms for L2 and EF.

L2 Summary Object				
Slice	Respondent	Content per Object	# Objects per Event	Size per Event (byte)
Jet	Brigitte Vachon	1 float	6	24
Electron	Ricardo Goncalo	10 floats	9	360
Photon	Valeria Perez	6 floats	16	384
Tau	Olya Igonkina			
Mion	Margherita Primavera	L2-mufast: 8 float, 3 int L2-mucomb: 6 float L2-muIso: 5 float, 5 int	2	216
MET	Martine Bosman	4 float	1	16
Mnbias	William Bell			
Bphys	Julie Kirk	4 float	2	32
Bjet	Andrea Coccaro	9 floats	13	468
Cosmic	Jamie Boyd			

Estimate for L2 Summary Object ~ 2 kB/event

"# Objects per Event" estimate comes from reading the number of collections per event from the checkFile.py output on top events with 13.0.30 default menu (obviously this is not exactly an "average" event)
 "Size per Event" estimate is #objects times size of object (bool = 1 byte, int = 4 byte, float = 4 byte, double = 8 byte).

Working on an estimate for EF...

EF Summary		
Slice	Respondent	Answer
Jet	Brigitte Vachon	1 float
Electron		
Photon	Valeria Perez	
Tau	Olya Igonkina	EFTau: 5 float, 2 int, 1 bool
Mion	Margherita Primavera	EF-More: 3 float, 1 int EF-mid: 3 float, 2 int EF-comb: 8 float, 2 int, 3 long
MET	Martine Bosman	
Mnbias	William Bell	
Bphys	Julie Kirk	
Bjet	Andrea Coccaro	
Cosmic	Jamie Boyd	

-- AndrewHamilton - 07 Jan 2008

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