

Possible runs for Hybrid Cone Isolation

The formula for our criterion is (based in Diphoton measurements):

$$ET^{\text{had}}(r_d) < E_{\text{max}_d} \cdot X_i(r_d, R_d, n)$$

Where

$$X_i(r_d, R_d, n) = \left(\frac{1 - \cos(r_d)}{1 - \cos(R_d)} \right)^n$$

Or

$$X_i(r_d, R_d, n) = (r_d/R_d)^{2n}$$

RUN1

E_{max_d}	R_d	n
$E_{\text{max}_{\text{experiment}}}$	0.1	0.1
$E_{\text{max}_{\text{experiment}}}$	0.1	0.5
$E_{\text{max}_{\text{experiment}}}$	0.1	1
$E_{\text{max}_{\text{experiment}}}$	0.1	2
$E_{\text{max}_{\text{experiment}}}$	0.1	4

RUN2

E_{max_d}	R_d	n
$E_{\text{max}_{\text{experiment}}}$	0.2	0.1
$E_{\text{max}_{\text{experiment}}}$	0.2	0.5
$E_{\text{max}_{\text{experiment}}}$	0.2	1
$E_{\text{max}_{\text{experiment}}}$	0.2	2
$E_{\text{max}_{\text{experiment}}}$	0.2	4

RUN3

E_{max_d}	R_d	n
$E_{\text{max}_{\text{experiment}}}$	0.3	0.1
$E_{\text{max}_{\text{experiment}}}$	0.3	0.5
$E_{\text{max}_{\text{experiment}}}$	0.3	1
$E_{\text{max}_{\text{experiment}}}$	0.3	2
$E_{\text{max}_{\text{experiment}}}$	0.3	4

RUN4

E_{max_d}	R_d	n
$E_{\text{max}_{\text{experiment}}}$	0.05	0.1
$E_{\text{max}_{\text{experiment}}}$	0.05	0.5
$E_{\text{max}_{\text{experiment}}}$	0.05	1
$E_{\text{max}_{\text{experiment}}}$	0.05	2

$E_{\text{max}}_{\{\text{experiment}\}}$	0.05	4
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RUN5

$E_{\text{max}}_{\{d\}}$	Rd	n
$E_{\text{max}}_{\{\text{experiment}\}}$	0.01	0.1
$E_{\text{max}}_{\{\text{experiment}\}}$	0.01	0.5
$E_{\text{max}}_{\{\text{experiment}\}}$	0.01	1
$E_{\text{max}}_{\{\text{experiment}\}}$	0.01	2
$E_{\text{max}}_{\{\text{experiment}\}}$	0.01	4

RUN6

$E_{\text{max}}_{\{d\}}$	Rd	n
$E_{\text{max}}_{\{\text{experiment}\}}$	0.4	0.1
$E_{\text{max}}_{\{\text{experiment}\}}$	0.4	0.5
$E_{\text{max}}_{\{\text{experiment}\}}$	0.4	1
$E_{\text{max}}_{\{\text{experiment}\}}$	0.4	2
$E_{\text{max}}_{\{\text{experiment}\}}$	0.4	4

Rd = 0.4 = R, is equal to FRIXIONE (no standard cone in the implementation).

After that, repeat RUN1 to RUN5 with $E_{\text{max}}_{\{\text{experiment}\}}/2$, $E_{\text{max}}_{\{\text{experiment}\}}/3$, etc. Or other $E_{\text{max}}_{\{d\}}$, smaller than $E_{\text{max}}_{\{\text{experiment}\}}$.