$\cos \theta^{*} \quad$ Cosine of the decay angle of the leading lepton pair in the $4 \ell$ rest frame $\cos \theta_{1}, \cos \theta_{2} \quad$ Cosine of the production angle, relative to the Z vector, of the antileptons from the two Z bosons
$\Phi, \Phi_{1} \quad$ Azimuthal angles between the decay planes
$m_{Z_{1}} \quad$ Invariant mass of the two leading leptons
$m_{Z_{2}} \quad$ Invariant mass of the two subleading leptons
$\mathcal{D}_{0-}^{\text {dec }} \quad$ Matrix element discriminant targeting $a_{3}$ coupling
$\mathcal{D}_{0 \mathrm{~h}+}^{\text {dec }}$
$\mathcal{D}_{\Lambda 1}^{\text {dec }}$
$\mathcal{D}_{\Lambda 1}^{\mathrm{Z} \gamma \text {, dec }}$
$\mathcal{D}_{\mathrm{CP}}^{\text {dec }}$
$\mathcal{D}_{\text {int }}^{\text {dec }}$

Matrix element discriminant targeting $a_{2}$ coupling
Matrix element discriminant targeting $k_{1}$ coupling
Matrix element discriminant targeting $k_{2}^{Z \gamma}$ coupling
Interference matrix element discriminant targeting $a_{3}$ coupling
Interference matrix element discriminant targeting $a_{2}$ coupling
[-1.0,-0.75,-0.50,-0.25,0.0,0.25,0.50,0.75,1.0]
[-1.0,-0.75,-0.50,-0.25,0.0,0.25,0.50,0.75,1.0]

$$
[-\pi,-3 \pi / 4,-\pi / 2,-\pi / 4,0, \pi / 4, \pi / 2,3 \pi / 4, \pi]
$$

$$
[40,65,75,85,92,120] \mathrm{GeV}
$$

$$
[12,20,25,28,32,40,50,65] \mathrm{GeV}
$$

[0.0,0.4,0.5,0.6,0.7,0.8,0.9,1.0]
[0.0,0.35,0.4,0.45,0.55,0.65,0.75,1.0]
[0.0,0.45,0.5,0.6,0.7,1.0]
[0.0,0.35,0.45,0.5,0.55,0.65,1.0]
[-0.75,-0.25,-0.1,0.0,0.1,0.25,0.75]
[0.0,0.7,0.8,0.9,0.95,1.0]

