

Common selection

$$\begin{aligned}
 p_T^{j1,j2} &> 30 \text{ GeV}, |\eta^{j1,j2}| < 4.7 \\
 p_T^{\ell1,\ell2} &> 20 \text{ GeV}, |\eta^{\ell1,\ell2}| < 2.4 \\
 |\eta^\gamma| &< 1.4442 \\
 M_{jj} &> 150 \text{ GeV} \\
 70 &< M_{\ell\ell} < 110 \text{ GeV}
 \end{aligned}$$

EW signal measurement

$$\begin{aligned}
 p_T^\gamma &> 25 \text{ GeV} \\
 |\Delta\eta_{jj}| &> 1.6
 \end{aligned}$$

$$\Delta R_{j\ell} > 0.3, \Delta R_{jj,\gamma j,\gamma\ell} > 0.5$$

$$|y_{Z\gamma} - (y_{j1} + y_{j2})/2| < 1.2$$

$$\Delta\phi_{Z\gamma,jj} > 2.0 \text{ radians}$$

$M_{jj} > 400 \text{ GeV}$  with two divided regions

$400 < M_{jj} < 800 \text{ GeV}$  and  $M_{jj} > 800 \text{ GeV}$

Fiducial cross section

$$\begin{aligned}
 p_T^\gamma &> 20 \text{ GeV} \\
 |\Delta\eta_{jj}| &> 2.5
 \end{aligned}$$

$$\Delta R_{jj,\gamma j,\gamma\ell,j\ell} > 0.4$$

$$M_{jj} > 400 \text{ GeV}$$

aQGC search

$$\begin{aligned}
 p_T^\gamma &> 60 \text{ GeV} \\
 |\Delta\eta_{jj}| &> 2.5
 \end{aligned}$$

$$\Delta R_{j\ell} > 0.3, \Delta R_{jj,\gamma j,\gamma\ell} > 0.5$$

$$M_{jj} > 400 \text{ GeV}$$