| Symbol | Definition | $2 \ell$ | $3 \ell+4 \ell$ |
| :---: | :---: | :---: | :---: |
| $\max _{2} \mathrm{DJ}$ | Second-highest DeepJet score of any jet | 1 | 1 |
| $\max _{3} \mathrm{DJ}$ | Third-highest DEEPJET score of any jet | 8 | 15 |
| $\max _{4} \mathrm{DJ}$ | Fourth-highest DEEPJET score of any jet | 29 | - |
| $\mathrm{DJ}\left(\mathrm{j}_{1}\right)$ | DeepJet score of leading jet | 9 | 7 |
| $\mathrm{DJ}\left(\mathrm{j}_{2}\right)$ | DEEPJET score of subleading jet | 12 | 11 |
| DJ $\left(\mathrm{j}_{3}\right)$ | DEEPJET score of jet with third-highest $p_{\text {T }}$ | 16 | 18 |
| $\mathrm{DJ}\left(\mathrm{j}_{4}\right)$ | DEEPJET score of jet with fourth-highest $p_{\text {T }}$ | - | 22 |
| $\Delta R\left(\ell_{1}, \ell_{2}\right)$ | $\Delta R$ between leading and subleading lepton | 2 | 4 |
| $\Delta \phi\left(\ell_{1}, \ell_{2}\right)$ | $\Delta \phi$ between leading and subleading lepton | 5 | - |
| $\min \Delta R(\mathrm{~b}, \mathrm{~b})$ | Smallest $\Delta R$ between any two b jets | 3 | 3 |
| $\min \Delta R(\ell, \mathrm{~b})$ | Smallest $\Delta R$ between any lepton and b jet | 6 | - |
| $\min _{2} \Delta R(\ell, \mathrm{~b})$ | Second-smallest $\Delta R$ between any lepton and b jet | 4 | 6 |
| $m\left(\mathrm{t}_{1}\right)$ | Invariant mass of any three jets, of which one is identified as $b$ jet, that is closest to the top quark mass | 7 | 2 |
| $m\left(\mathrm{~W}_{1}\right)$ | Invariant mass of any two jets used for $m\left(\mathrm{t}_{1}\right)$ that is closest to the W boson mass | 10 | 5 |
| $m\left(\mathrm{t}_{2}\right)$ | Invariant mass of any three jets, of which one is identified as $b$ jet and none of which is used for $m\left(\mathrm{t}_{1}\right)$, that is closest to the top quark mass | 23 | - |
| $m\left(\mathrm{~W}_{2}\right)$ | Invariant mass of any two jets used for $m\left(\mathrm{t}_{2}\right)$ that is closest to the W boson mass | 28 | - |
| $H_{\text {T }}$ | Scalar $p_{\mathrm{T}}$ sum of all jets | 14 | 8 |
| $p_{\mathrm{T}}^{\text {miss }}$ | Missing transverse momentum | 20 | 13 |
| $N_{\text {j }}$ | Number of jets | 24 | 23 |
| $N_{\text {b }}^{\text {tight }}$ | Number of jets passing the tight DeepJet WP | 27 | 24 |
| $N_{\mathrm{b}}^{\text {medium }}$ | Number of jets passing the medium Deepjet WP | 30 | - |
| $p_{\mathrm{T}}\left(\ell_{1}\right)$ | Highest $p_{\text {T }}$ of any lepton | 19 | 14 |
| $p_{\mathrm{T}}\left(\ell_{2}\right)$ | Second-highest $p_{\mathrm{T}}$ of any lepton | 15 | 17 |
| $p_{\mathrm{T}}\left(\ell_{3}\right)$ | Third-highest $p_{\mathrm{T}}$ of any lepton | - | 9 |
| $p_{\mathrm{T}}\left(\mathrm{j}_{1}\right)$ | Highest $p_{\text {T }}$ of any jet | 18 | 12 |
| $p_{\mathrm{T}}\left(\mathrm{j}_{2}\right)$ | Second-highest $p_{\mathrm{T}}$ of any jet | 22 | - |
| $p_{\mathrm{T}}\left(\mathrm{j}_{3}\right)$ | Third-highest $p_{\mathrm{T}}$ of any jet | - | 10 |
| $p_{\mathrm{T}}\left(\mathrm{j}_{4}\right)$ | Fourth-highest $p_{\mathrm{T}}$ of any jet | 11 | - |
| $p_{\mathrm{T}}\left(\mathrm{j}_{5}\right)$ | Fifth-highest $p_{\text {T }}$ of any jet | 13 | 21 |
| $m_{\mathrm{T}}\left(\ell_{1}\right)$ | Transverse mass of leading lepton and $p_{\mathrm{T}}^{\text {miss }}$ | 17 | 19 |
| $m_{\mathrm{T}}\left(\ell_{2}\right)$ | Transverse mass of subleading lepton and $p_{\mathrm{T}}^{\text {miss }}$ | 21 | 16 |
| $m_{\text {T2 }}(\ell)$ | $m_{\mathrm{T} 2}$ variable constructed from leading and subleading leptons | - | 20 |
| $m_{\text {T2 }}(\mathrm{b})$ | $m_{\mathrm{T} 2}$ variable constructed from leading and subleading b jets | 25 | - |
| $m_{\mathrm{T} 2}(\ell+\mathrm{b})$ | $m_{\mathrm{T} 2}$ variable constructed from two lepton+jet systems built with leading two leptons and leading two $b$ jets | 26 | - |

