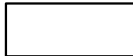


| | No b-tag | b-tag | | | | | | | | | | |
|-------------------------------------|---|-------------------------------------|-----------------------------------|-------------------------|-------------------------|--------------------------|--------------------------|--------------------|--------------------|--|-------------------|-----------------|
| $\tau\tau \rightarrow e\mu$ | <table border="1"> <tr> <td>Medium-D_ζ $p_T < 50$ GeV</td> <td>High-D_ζ $p_T < 50$ GeV</td> </tr> <tr> <td>$50 \leq p_T < 100$ GeV</td> <td>$50 \leq p_T < 100$ GeV</td> </tr> <tr> <td>$100 \leq p_T < 200$ GeV</td> <td>$100 \leq p_T < 200$ GeV</td> </tr> <tr> <td>$p_T \geq 200$ GeV</td> <td>$p_T \geq 200$ GeV</td> </tr> </table> | Medium- D_ζ $p_T < 50$ GeV | High- D_ζ $p_T < 50$ GeV | $50 \leq p_T < 100$ GeV | $50 \leq p_T < 100$ GeV | $100 \leq p_T < 200$ GeV | $100 \leq p_T < 200$ GeV | $p_T \geq 200$ GeV | $p_T \geq 200$ GeV | <table border="1"> <tr> <td>Medium-D_ζ</td> <td>High-D_ζ</td> </tr> </table> | Medium- D_ζ | High- D_ζ |
| Medium- D_ζ $p_T < 50$ GeV | High- D_ζ $p_T < 50$ GeV | | | | | | | | | | | |
| $50 \leq p_T < 100$ GeV | $50 \leq p_T < 100$ GeV | | | | | | | | | | | |
| $100 \leq p_T < 200$ GeV | $100 \leq p_T < 200$ GeV | | | | | | | | | | | |
| $p_T \geq 200$ GeV | $p_T \geq 200$ GeV | | | | | | | | | | | |
| Medium- D_ζ | High- D_ζ | | | | | | | | | | | |
| $\tau\tau \rightarrow e\tau_h$ | <table border="1"> <tr> <td>Tight-m_T</td> <td>$p_T < 50$ GeV</td> </tr> <tr> <td></td> <td>$50 \leq p_T < 100$ GeV</td> </tr> <tr> <td></td> <td>$100 \leq p_T < 200$ GeV</td> </tr> <tr> <td></td> <td>$p_T \geq 200$ GeV</td> </tr> </table> | Tight- m_T | $p_T < 50$ GeV | | $50 \leq p_T < 100$ GeV | | $100 \leq p_T < 200$ GeV | | $p_T \geq 200$ GeV | Tight- m_T | | |
| Tight- m_T | $p_T < 50$ GeV | | | | | | | | | | | |
| | $50 \leq p_T < 100$ GeV | | | | | | | | | | | |
| | $100 \leq p_T < 200$ GeV | | | | | | | | | | | |
| | $p_T \geq 200$ GeV | | | | | | | | | | | |
| $\tau\tau \rightarrow \mu\tau_h$ | <table border="1"> <tr> <td>Tight-m_T</td> <td>$p_T < 50$ GeV</td> </tr> <tr> <td></td> <td>$50 \leq p_T < 100$ GeV</td> </tr> <tr> <td></td> <td>$100 \leq p_T < 200$ GeV</td> </tr> <tr> <td></td> <td>$p_T \geq 200$ GeV</td> </tr> </table> | Tight- m_T | $p_T < 50$ GeV | | $50 \leq p_T < 100$ GeV | | $100 \leq p_T < 200$ GeV | | $p_T \geq 200$ GeV | Tight- m_T | | |
| Tight- m_T | $p_T < 50$ GeV | | | | | | | | | | | |
| | $50 \leq p_T < 100$ GeV | | | | | | | | | | | |
| | $100 \leq p_T < 200$ GeV | | | | | | | | | | | |
| | $p_T \geq 200$ GeV | | | | | | | | | | | |
| $\tau\tau \rightarrow \tau_h\tau_h$ | <table border="1"> <tr> <td></td> <td>$p_T < 50$ GeV</td> </tr> <tr> <td></td> <td>$50 \leq p_T < 100$ GeV</td> </tr> <tr> <td></td> <td>$100 \leq p_T < 200$ GeV</td> </tr> <tr> <td></td> <td>$p_T \geq 200$ GeV</td> </tr> </table> | | $p_T < 50$ GeV | | $50 \leq p_T < 100$ GeV | | $100 \leq p_T < 200$ GeV | | $p_T \geq 200$ GeV | | | |
| | $p_T < 50$ GeV | | | | | | | | | | | |
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| | $100 \leq p_T < 200$ GeV | | | | | | | | | | | |
| | $p_T \geq 200$ GeV | | | | | | | | | | | |
| $t\bar{t}(e\mu)$ | | | | | | | | | | | | |



Signal region (SR)



Control region