Significance on direct slepton model uu channel, trained network on full susy dataset $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (250, 75)$ $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (125, 1)$ $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (150, 1)$ 10^1 $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (150, 90)$ $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (400, 300)$ $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (175, 1)$ Expected significance $[\sigma]$ $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (225, 50)$ $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (250, 175)$ $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (250, 210)$ $(m_{\tilde{\ell}}, m_{\tilde{\chi}_1^0}) = (100, 25)$ 10^{0} 0.0 0.2 0.4 0.6 8.0 1.0 XGBoost output