The diagrams illustrate the cross-section $g^2_{\ell} B(\phi_{\ell\ell})$ for $\ell = e, \mu$, as a function of the mass of the $\phi$ particle, for $t\phi(-\ell\ell)$ and $t\phi(-\ell\ell)$ processes with $\ell = e, \mu$. The plots show 95% CL upper limits for observed and expected values, with band colors indicating the expected significance levels. The CMS Z boson mass region (13 TeV) is highlighted, with a measured cross-section of 137 fb$^{-1}$.