



Figure 7. Marginal probability distributions for the source chirp mass \mathcal{M} , mass ratio q , effective inspiral spin χ_{eff} , effective precession spin χ_p and luminosity distance D_L for O3b candidates with $p_{\text{astro}} > 0.5$ plus GW200105_162426. The colored upper half of the plot shows the marginal posterior distributions, and the white lower half of the plot shows the marginal prior distributions. The vertical extent of each colored region is proportional to one-dimensional marginal probability distribution at a given parameter value for the corresponding candidate. We highlight with italics GW200105_162426 as it has $p_{\text{astro}} < 0.5$, as well as GW191219_163120 because of significant uncertainty in its p_{astro} and because it has significant posterior support outside of mass ratios where the waveform models have been calibrated. Results for GW200308_173609 and GW200322_091133 include a low-likelihood mode at large distances and high masses. Colors correspond to the date of observation.