



**Figure 1. Distribution of family and random matches for all MSA families.**

Each plot shows a histogram of the percentages of family matches that fall in various RMSD bins, overlaid on a histogram of the percentages of random matches falling in those RMSD bins. Each histogram bin covers 0.1 Å. There are many more random matches than family matches, but this is masked by showing the *proportion* of each type of match on the vertical scale. Also note that there are different scales employed for the family matches and the random matches.