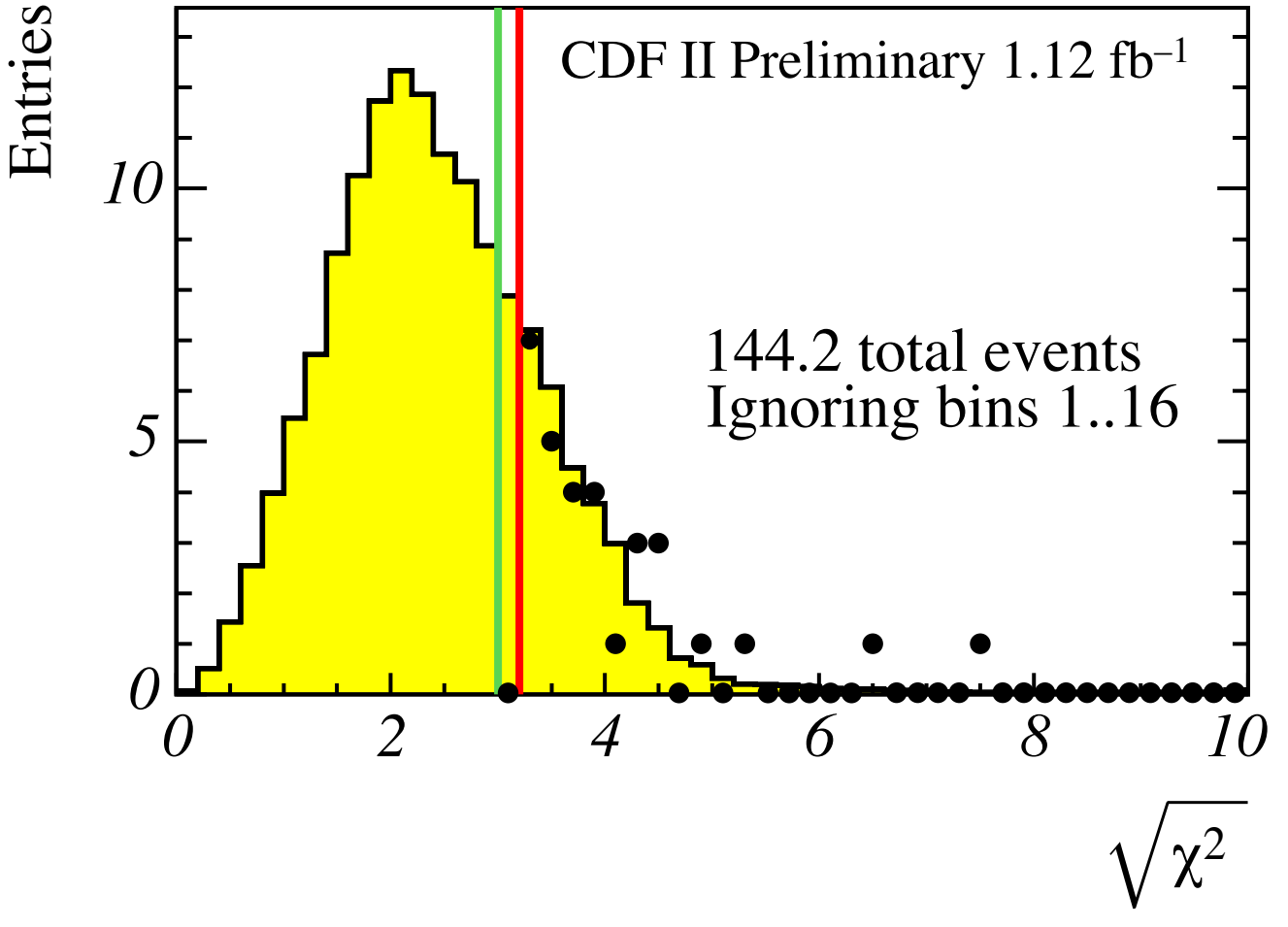Fit to High χ^2 Tail