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Fast CMB Power Spectrum Prediction using Kernel Density Estimation CHAD FENDT, BENJAMIN WANDELT, University of Illinois at Urbana-Champaign — We provide a method to quickly calculate cosmic microwave background power spectra and transfer functions using kernel density estimation. Given a training set of cosmological parameters and corresponding power spectra, we construct a probability distribution over the joint space by placing a normal distribution over each point in the training set. For a given set of cosmological parameters we sample the most likely power spectrum from this distribution. This method has the advantage of being scalable to an arbitrary number of cosmological parameters and multipole l-values.

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