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Smooth sailing or ragged climb? —Increasing the robustness of power spectrum de-wiggling and ShapeFit parameter compression

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ShapeFit is a novel approach alternative to Full Modeling, and has been gaining popularity for analyzing the large scale structures of the universe. This approach provides information on the slope of the matter power spectrum at the pivot scale, m. There are two crucial steps to obtain this additional information: de-wiggling the power spectrum and calculating the derivative at the pivot scale. In this work different de-wiggling and derivative methods were compared and examined to study their impact on the obtained value of the slope. A systematic uncertainty of sigma = 0.23|m| + 0.001 is derived by studying the behavior of the slope values in different cosmologies within and beyond LCDM.

In this poster I present the two steps mentioned above, the proposed method to obtain the slope value in a more robust way, and the systematic error budget of ShapeFit.

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