

How sensitive is the CMB to a single lens?

While weak lensing (WL) of the CMB by LCDM large scale structure is well understood, the case of WL by a single, anomalously large, statistical isotropy breaking structure, is substantially different. We address the issue of the detectability of such a lens by means of its WL signal on the CMB, thus mending some previous results. Next we show that non-Gaussianities induced by LCDM WL play a key role in constraining this detectability. Finally, we consider the WMAP cold spot as an example and find that the hypothesis that it is caused by a void (or a texture) can barely (cannot) be tested via WL of the CMB.

Primary authors: Ms FIALKOV, Anastasia (Tel Aviv University); Mr RATHAUS, Ben (Tel Aviv University); Prof. ITZHAKI, Nissan (Tel Aviv University)

Presenter: Mr RATHAUS, Ben (Tel Aviv University)