

We again thank **Reviewer #8** for carefully reading our rebuttal and making further inquiries. Please find below our responses to the inquiries. Clarifications will be added to the manuscript if possible.

Response to Reviewer #8:

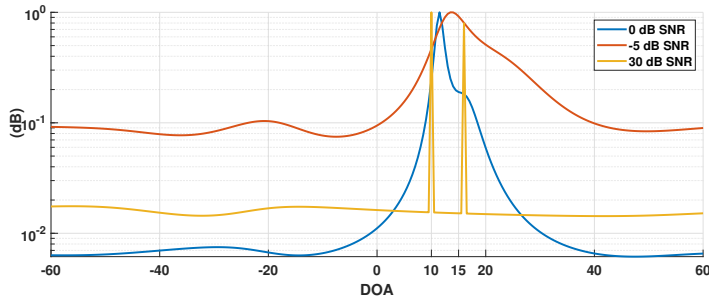
COMMENT 1: What's the definition of RP?

REPLY 1: This has been mentioned at the end of Section 4.1 that RP corresponds to Resolution Probability. In practical applications, people generally ask “in a given number of trials, how often the algorithm succeeds in resolving two closely spaced signals and how this frequency of success varies with the SNR and other parameters?” Resolution probability provides an answer to this question¹. RP in the manuscript signifies how the sources are considered well-separated for which we have used a strict criterion i.e., when the absolute DoA errors $|\hat{\theta}_1 - \theta_1|$ and $|\hat{\theta}_2 - \theta_2|$ are less than the resolution criterion $\min(|\theta_1 - \theta_2|/2, 2^\circ)$, where $\min(a, b)$ returns the smaller value between a and b . At the end of section 4.2.2, we have stated the resolution criterion of $< 2^\circ$, for considering whether the algorithm has rightly or successfully resolved the sources which are at a 2-degree difference.

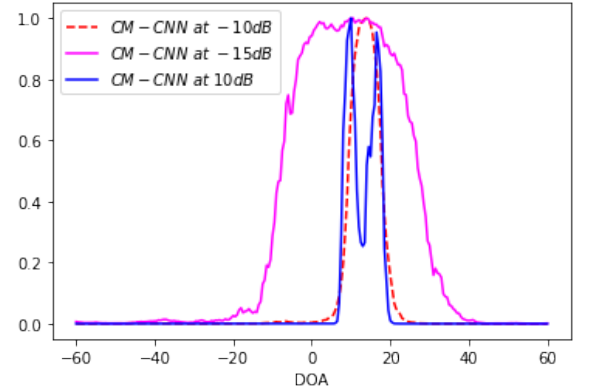
¹ Q. T. Zhang, "Probability of resolution of the MUSIC algorithm," in IEEE Transactions on Signal Processing, vol. 43, no. 4, pp. 978-987, April 1995.

COMMENT 2: Fig. 2, the performance of the Capon-MUSIC-CNN in terms of RP is the worst one. While the ARMSE of that seems good based on Fig. 3. Please clarify.

REPLY 2: Thanks for pointing it out about the performance of the Capon-MUSIC-CNN in terms of RP and ARMSE. Indeed, the performance of Capon-MUSIC-CNN appears worst in terms of RP for different SNRs and angular separations. One of the plausible arguments for this can be the degraded performance of Capon-MUSIC itself at low values of SNRs for contiguous sources [] and the use of strict resolution criteria ($\min(|\theta_1 - \theta_2|/2, 2^\circ)$) []. In such scenarios, the Capon-MUSIC is only able to resolve a single source, but for the other source, the peak in the spectrum is absent, which leads to the worst performance in terms of RP. In the case of ARMSE, when the peak is absent, zero is substituted in the ARMSE equation for the undetected DOA, thus leading to a considerable score, as depicted in Fig.3 of the manuscript.



(a) Pseudo-spectrum for Capon-MUSIC estimated by (0, -5 & 30)dB SNR when sources are at 10° and 16°



(b) binarized pseudo spectrum estimated by Capon-MUSIC-CNN at (-10, -15 & 10)dB SNR when sources are at 10° and 16°

Figure 1