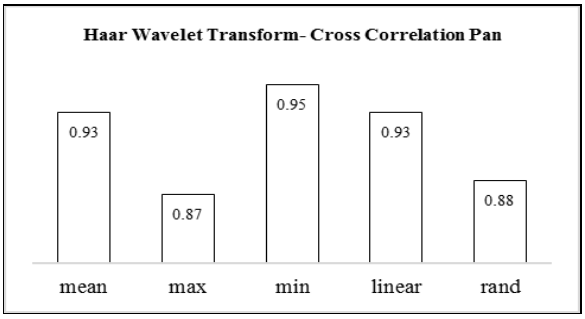

Figure 10. Cross correlation with PAN

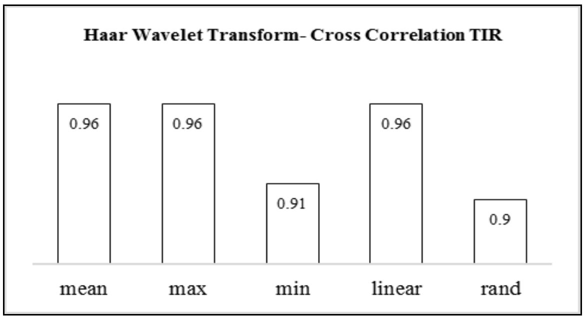

Figure 11. Cross correlation with TIR

7. CONCLUSION

In this paper we evaluated performance of wavelet based image fusion with different filters (mean.linear, max,min and rand) for satellite images(Landsat8 data). Two different approaches used for accuracy assessment of fused images: 1) qualitative approach, 2) quantitative approach.

We showed the performance of different filters in wavelet based image fusion for satellite images. For this purpose, quantitative and qualitative results were considered. it is concluded that linear and mean filters have makes better fused image with respect to visual quality and quantitative values. And also these filters have more stable variation values in different quantitative measures so that they are in first three ranks at all.

Statistical parameters cannot be used for accuracy assessment in fusion process alone. For thermal and visible image fusion accuracy assessment, all parameters (quantitative and qualitative) must be analysed with respect to each other. Qualitative validation is better than quantitate ones. Among all relevant statistical factors, correlation has most meaningful result and similarity to the qualitative assessment. Linear and mean filters have same performance and there is not any difference between their qualitative and quantitative results.

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