

Weighted averages over the Gaussian Integers: where we are and where we are going

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In the recent years, there has been an increased interest in the study of averaging operators defined in non-conventional settings, especially the Gaussian (i.e complex) integers. In this talk, we will introduce the topic and review some existing results in this setting , particularly ones inspired by number theoretic objects like the primes or the divisor function. We will then discuss the progress made towards determining the sharpness of these results, as well as their applications.

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