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Kasso A Okoudjou* (okoudjou@umd.edu), Massachusetts Institute of Technology, Department of Mathematics, 77 Massachusetts Avenue, Cambridge, MA 02139. *An introduction to Gabor analysis.*

In 1946, Dennis Gabor claimed that any square Lebesgue integrable function can be written as an infinite linear combination of time and frequency shifts of the standard Gaussian. Since then, decomposition methods for larger classes of functions or distributions in terms of various elementary building blocs have lead to an impressive body of work in harmonic analysis. For example, Gabor analysis which originated from Gabor's claim is concerned with both the theory and the applications of the approximation properties of sets of time and frequency shifts of a given function. It re-emerged with the advent of wavelets at the end of the last century and is now at the intersection of many fields of mathematics, applied mathematics, engineering, and science. In this talk, I will introduce the fundamental of the theory highlighting some applications and open problems. (Received January 08, 2020)