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On A Certain Class of Bessel Integrals

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Abstract: There are many old results of integrals involving Bessel functions, currently available in handbooks, but we found no recourse in the well-known references to how they were established. In this paper, we attempt to have a clear way of proving some of these results. In fact, we consider a certain class of Bessel integrals where we prove that such integrals vanish under certain conditions. To this end some theorems regarding this class of integrals with their proofs are put forward. A computer algorithm is provided to implement some of our results. The result in this paper extend the work in [3], and it concludes by indicating the wide range of old and new results that can be obtained.

Key Words: Bessel Functions, Infinite Integrals, Integral Representations