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Nasser Saad* (nsaad@upe.ca), University Of Prince Edward Island, 550 University Avenue,
Charlottetown, PEI C1A 4P3, Canada. *On W. Gordon's integral (1929) and related applications.*

Analytic evaluation of Gordon's integral (1929)

$$\mathbf{J}_c^{j(\pm p)}(b, b'; \lambda, w, z) = \int_0^\infty x^{c+j-1} e^{-\lambda x} {}_1F_1(b; c; wx) {}_1F_1(b'; c \pm p; zx) dx,$$

is given along with convergence conditions. It shows enormous number of definite integrals, frequently appear in theoretical and mathematical physics applications, easily deduced from this generalized integral. Some of the recent applications, in a number of different areas, discussed. (Received August 07, 2014)