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Reply to comment on "Relativistic Landau resonances"

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[1] In a comment on our paper [*Evangelidis and Botha* 2005], with reference to the solution of integrals (63) and (64), *Nadarajah* [2007] pointed to an alternative formulation obtained from *Prudnikov et al.* [1986, equation (2.12.39.6)]. An alternative method of evaluating these integrals is to be welcomed. In order to compare the formulations of the answer in both our published paper and using the formula from *Prudnikov et al.* [1986], we rewrite the answers to integrals (63) and (64) in the work of *Evangelidis and Botha* [2005], using the formula given by *Prudnikov et al* [1986]. When one does this, integral (63) becomes

$$2(mk_BT)^2 \sum_{n=0}^{\infty} \frac{4^n(1/2)_n(2)_n}{(1)_n(1)_n n!} \, (-y)^n \qquad (1)$$

and integral (64)

$$2(mk_BT)^2 y \sum_{n=0}^{\infty} \frac{4^n(3/2)_n(2)_n}{(1)_n(3)_n n!} \, (-y)^n, \qquad (2)$$

where y is a dimensionless quantity defined by (65) in the work of *Evangelidis and Botha* [2005]. $(x)_k$ is the Pochhammer symbol. All the other symbols have the same meaning as in the work of *Evangelidis and Botha* [2005].

[2] It is immediately obvious that the above formulation is as easy to implement numerically as the one obtained by *Evangelidis and Botha* [2005], with the ascending factorial notation of the original replaced with ascending and descending factorials. The expressions are equivalent and the choice of usage is down to personal preference. Given the fact that the integrals reduce to the simplified expressions given above and in (63) and (64) of *Evangelidis and Botha* [2005], involving only multiplication, there is no need to use either hypergeometric or gamma functions when computing the result numerically.

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