Review on "*Generalized analytical solution for advection - dispersion equation in finite spatial domain with arbitrary time - dependent inlet boundary condition*" by J.-S. Chen and C.-W. Liu

General comments:

This paper introduces a new analytical solution for contaminant transport in porous medium by using finite spatial domain method with arbitrary time - dependent inlet boundary condition. For driving a generalized analytical solution, the Laplace transform in combination with generalized integral transform was used. For verification, the analytical model is compared with a numerical model (finite difference) for a periodic input function ($f(t)=1+\sin(t)$). The model was validated by changing the longitudinal dispersion coefficient (D_L) and first-order decay rate constant (k). Finally model evaluated by using numerical integration for periodic and exponential input functions. Considering all aspects, I recommend this paper to be published after these considerations:

Specific comments:
1. The result of analytical method of this paper was verified with a numerical method. We know, in simplified case which mentioned in this paper, analytical solutions have more accuracy rather than numerical ones. Therefore, it makes sense to verify a numerical model with analytical solutions. But to verify the analytical solutions, a method with more or at least same accuracy is needed. I suggest using experimental or observational data or other analytical solutions like semi-finite or infinite spatial domain solutions which are mentioned in the page 4100 line 22 and 23 of your paper or the analytical solution published by Marsily (1986).

2. page 4103 line 5 "V stands for the averaged steady-state pore water velocity" may change to:
   V stands for the average linear velocity of the pore fluid
   $$V = \frac{U}{n}$$
   where U is specific discharge, or Darcian velocity and n is porosity.

3. page 4103 line 15 please change "(1) – (4)" into "(1) to (4)" and same correction for same cases throughout the paper.

4. page 4106 line 6 "Ψ" has never introduced before.

5. page 4106 line 9 "C_G" has never introduced before.

6. page 4107 line 7, increase the size of the fonts in the equation.

7. page 4108 line 1 "The solutions for constant and exponential decaying time-dependent input functions in Table 1 are the same as those reported in literature" should be mentioned in the title of table 1 as well.

8. Page 4108 line 26 *D* has never introduced before. Is it equal to D_L?

9. Page 4108 line 28 please change "D and k" to the longitudinal dispersion coefficient (D_L) and first-order decay rate constant (k)

10. page 4109 line 27 to page 4110 line 2, may move to the Conclusion.

Reference

De Marsily, Ghislain (1986). Quantitative hydrogeology: groundwater hydrology for engineers. Orlando, FL, USA, Academic Press.