The paper needs an accurate revision, answering some scientific and technical questions.

Scientific questions

1) From the discussion in the introduction about the results of Kihm et al. (2007), it is not clear which are the limits of the results given in that paper, which are overcome with the approach proposed in the present paper. In other words, what is wrong with the results of Kihm et al. (2007) and why is it necessary to develop a new model?

2) The results of Figure 6 show that the three tested models (FEM, FDM and analytical solution) provide very similar results; moreover, the gap between models' predictions and the observed data is almost the same for the three models. This is surprising, due to the great differences between the assumptions which are at the basis of the three models. This should be further discussed.

3) At several points of the paper it is claimed that the borders AG and DE are far from the pumping well, so that the flow through these borders does not contribute to the water extracted from the pumping well. On the other hand, it is sometimes stated (e.g., page 9, lines 7 to 10) that "water extracted from the pumping well comes from different sources such as nearby streams, constant-head boundaries, and aquifer storage". Therefore, there is a clear contradiction, which should be corrected.

4) Section 3.5 does not provide particular information, is a quite straightforward application of the proposed procedure and could be erased without compromising the scientific quality of the paper.

Technical questions

Page 1, lines 1 to 2. Substitute "in the L-shaped fluvial aquifer" with "in L-shaped fluvial aquifers".

Page 1, lines 19 to 20. Erase the sentence "The SDR solution … pumping rate".

Page 1, line 23. Erase "the" before "groundwater".

Page 2, line 3. Substitute "none of them are to deal" with "none of the cited papers deals".

Page 2, line 5. Substitute "for evaluating the" with "to model".

Page 2, lines 6 to 7. Substitute "heterogeneous aquifer properties" with either "heterogeneous aquifer" or "spatially-variable aquifer properties".

Page 2, line 7. Erase "We therefore… present solution".

Page 2, line 33. SDR has not yet been defined in the text.

Page 3, line 25. Add "assumed to be" before "homogeneous".

Page 3, line 30. Substitute "to inverse Laplace-domain solution" with "to invert the Laplace-domain solution".

Page 3, line 31. Erase "in L-shaped heterogeneous aquifer".

Page 4, line 2. Add ", whose characteristics are " before "reported".

Page 4, lines 3 to 4. Substitute "The west side of the plain is a mountainous area with the formation of exposed impermeable bedrock and the east side has the Poonggye stream which passes the district from the southwest corner toward the northeast", possibly with "The west side of the plain is a mountainous area, where impermeable bedrock outcrops, and the Poonggye stream flows along the east side from the southwest corner toward the northeast corner".

Page 4, line 7. Add "as" before "reported".

Page 4, line 9. Add "s" to "deposit".

Page 4, lines 9 & 10. Substitute "of a thickness" with "with a thickness" (twice).

Page 4, line 13. Add "s" to "coordinate".

Page 4, line 18. Substitute "did in" with "was done by".

Page 4, lines 19 & 20. Substitute "they are not streams and therefore not count for their contribution in the calculations of SDR in Sect. 2.5 Stream depletion rate", possibly with "they do not coincide with streams and therefore do not contribute to SDR as calculated in Sect. 2.5 Stream depletion rate"

Page 4, line 24. Substitute "reported in" with "as reported by".

Page 4, line 27. Rephrase "with suction lift less than 7 m".

Page 4, lines 30 & 31. Rephrase the sentence "This depth… net annual average rainfall".

Page 4, lines 31 & 32. Move the sentence "This aquifer… $\phi_2(x, y, t)$." To the next subsection and possibly rephrase it.

Page 5, lines 2 to 12. Please rephrase these sentences. They can be stated in a more straightforward way.

Page 6, line 4. Is d_2 correct in the definition of $Q_{1k}{}^*$?

Page 6, line 6. Add "s" to "region".

Page 9, lines 8 to 13. Substitute "Pumping… the dimensionless solutions", possibly with "Pumping in an aquifer near a stream often produces water filtration from the stream toward the well (Yeh et al., 2008). Water extracted from the pumping well comes from different sources such as nearby streams, constant-head boundaries, and aquifer storage. considered. The extraction rate from the stream is referred to as stream depletion rate (SDR).Since the boundaries AG and ED do not correspond to streams in physical world and are mathematically treated as constant-head because they are far from the pumping well, only the extraction rate from streams AB and BD near the pumping well needs to be considered. The dimensionless solutions".

Page 9, lines 13, 14 and following. $\widetilde{SDR}_A$ and $\widetilde{SDR}_B$ should be replaced with $\widetilde{SDR}_{AB}$ and $\widetilde{SDR}_{BD}$.

Page 9, line 22. SRR has not yet been defined in the text.

Page 10, line 3. Add "(USGS, 2005)" after "MODFLOW".

Page 10, lines 4 to 6. Erase "The MODFLOW… (USGS, 20015)."

Page 10, line 10. Substitute "The upper loam layer is 2.5 m and lower sand layer 3.5 m" with "The upper loam layer is 2.5-meter-thick and the lower sand layer is 3.5-meter-thick".

Page 10, lines 11 & 12. Substitute "The types of outer boundary" with "The boundary conditions".

Page 10, lines 13 & 14. Substitute "The fluvial aquifer reported in Kihm et al. (2007) is isotropic and homogeneous in horizontal direction." With "Following Kihm et al. (2007), the fluvial aquifer is considered isotropic and homogeneous in the horizontal direction."

Page 10, lines 15 &16. There is some confusion among K, K_1 and K_2. The notation should be changed.

Page 10, lines 19 & 20, 27. Modify the sentences "The hydraulic head distribution… in Figure 3" and "represented by the dotted line is shown in Figure 3". Check the correspondence of the line types in the map and what is written in the text. Moreover, it should be clearly stated that contour lines are drawn in Figure 3.

Page 10, lines 21 & 22. Substitute "A multi-layered aquifer… (Charbeneau, 2000):", possibly with "The global behavior of a multi-layered aquifer may be approximated with that of an equivalent homogeneous medium, whose hydraulic conductivity in the horizontal plane K_h may be evaluated as (Charbeneau, 2000):"

Page 10, lines 27 & 28. Rephrase "The figure indicates… except the region".

Page 10, line 30 & 31. Rephrase "MODFLOW ensures… predicted results."

Page 11, line 18. Erase "Note that".

Page 11, line 28. Substitute "made" with "used".

Page 11, lines 31 to 33. Rephrase "Hence… by the pumping".

Page 12, line 2. Add "as" before "mentioned".

Page 12, line 3. Should "upper" be substituted with "northern"?

Page 12, line 5. Add "simulations" after "MODFLOW".

Page 12, line 11. Rephrase "decline greater".

Figure 4. Why are not MODFLOW results shown?