**Responses to Reviewers (required)**

For every revised version, the authors will reply using the following tables

They will upload them via the web or will send them by email.

Authors will have to make all the changes, modifications, additions, studies, corrections asked by the reviewers using the following forms. Authors have to be fully complied with the reviewers' instructions. Before the publication, the three (or more than three) reviewers will check, if the changes, modifications, additions, studies, corrections etc have been carried out. In this case, the paper will be published or will be rejected or a new round of peer review will start.

**Reviewer # 1**

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| **Reviewer's #1 comment** | **Authors response** | **Action Taken** |
| A first remark is that the references do not follow the NAUN Format. The references must be [1], [2], [3] etc and not (Author, Year) pay attention, please | The references have been revised according to the NAUN format. | Done |
| The authors claim: "Site specific case study, have reported that drip irrigation even in the 50% of the sugar beets irrigation  needs in South Italy gives higher production  compared to 100% sprinkler irrigation "  Here we need more details | More details have been added. | The sentence has been edited:  “Site specific case study has reported that drip irrigation of sugar beets in South Italy gives higher production compared to sprinkler irrigation. Specifically, for drip irrigation at 50% of the crops irrigation needs, sucrose production is 10.6 t/ha, while sprinkler irrigation at 100% of the crops irrigation needs results in 9.3 t/ha of sucrose production [17].” |
| The polynomial in the equation (2.1) cannot be a charachteristic polynomial of System S.1  The feedback control leads to an unstable system. Please, try to factorize the denominator of the equation (3.1) instead. | Additional analysis has been added, where available. | * Addition of Table 2. (Examples of surface …), consisted of indicative data regarding rivers runoff * Addition of Table 3. (Public networks...), where data about water transferring infrastructure is presented. * The paragraph “In the TRBD about 78.3% of irrigation … operated pressured pipes results in 10% losses.” has been broken down in two paragraphs, one presenting the available data regarding water transferring and the second about irrigation water application. |
| Very good methodology, but the authors must include more statistics. Can you justify the results with Chi-Square test? | Methodology was revised, in order to become more comprehensive and detailed. We have included Chi-Square test | Addition of statistics;  We have included Chi-Square test   * Section 2.1: Addition of statistics regarding the status of water bodies, ex. “...quantitative pressure is found high in 8/72 (11%) ...” * Section 2.2: Fig. 2 * We have included Chi-Square test |
| Too many suggestions have been given and has been accommodated re-editing and compliance is required | Special focus has been given in the conclusions future research sections with short term water saving measures as priority | * Section 2.2: Statistics for the water transferring and application, ex. “Application losses for the areas irrigated from the authorities range from 16.63% to 21.39%, averaging 19.09% of irrigation needs” |
| By calculating the integral 7.1, we see that there is strong numerical instability. How can you explain it? | The reviewer is right. We calculate the integral 7.1 again using Fast Fourier Transform | We calculated the integral 7.1 again using Fast Fourier Transform |
| The Finite Differences Scheme that the authors use is not better than the Finite Differences Scheme in [21]. | Actually our Finite Differences Scheme is better because.... | A new paragraph has been added after Theorem 3.1 |

**Reviewer #2**

Please, add a similar table for the **Reviewer's #2 comments, Authors responses, Actions Taken**

**Reviewer #3**

Please, add a similar table for the **Reviewer's #2 comments, Authors responses, Actions Taken**

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**Reviewer #n**

Please, add a similar table for the **Reviewer's #n comments, Authors responses, Actions Taken**