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| Book Name: | [Engineering Research: Perspectives on Recent Advances](https://www.bookpi.org/bookstore/product/engineering-research-perspectives-on-recent-advances-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4261** |
| Title of the Manuscript: | **STUDY ON COUNTERMEASURE OF SCOUR IN DOWNSTREAM OF WEIR STILLING BASIN USBR TYPE** |
| Type of the Article | **BOOK CHAPTER** |

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| PART 1: Comments | | |
|  | Reviewer’s comment | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This manuscript provides insights into the mechanisms of scour and the effectiveness of rip-rap protection in downstream stilling basins, which are critical for maintaining the structural integrity of hydraulic structures like dams and weirs. By experimentally validating relationships between hydraulic parameters (e.g., Reynolds and Froude numbers) and scour characteristics, it contributes to a deeper understanding of erosion processes under controlled conditions. The findings can inform the design and optimization of erosion control measures, reducing maintenance costs and enhancing safety in river engineering projects. Moreover, its focus on practical and cost-effective solutions, such as rip-rap and gabion installations, offers actionable guidance for engineers and policymakers addressing similar challenges. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | The current title effectively conveys the topic but could be improved for clarity and impact. It uses slightly awkward phrasing and does not highlight the experimental focus or the broader implications of the work.  Suggested Alternative Titles:  1- Optimizing Scour Protection in Downstream Stilling Basins: Insights from USBR-Type Weirs  2- Analysis of Scour Patterns and Protection Strategies in USBR-Type Hydraulic Structures |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | 1- The abstract begins with a general description of the problem (hydraulic jump and scour downstream of weirs), but it could benefit from a more explicit mention of the practical significance of addressing scour for dam safety and river management.  2- While the abstract mentions the use of USBR weir models and variations of rip-rap protection, it does not clearly highlight the specific contribution of the study.  3- The abstract provides qualitative findings but lacks numerical or specific data to strengthen its impact.  4- The abstract does not explicitly state the broader implications of the findings for engineering practice or research. |  |
| **Is the manuscript scientifically, correct? Please write here.** | I have made some recommendations and critiques in the Optional/General part. Please refer to it and pay attention enough to the comments mentioned. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.** | NO. |  |
| Is the language/English quality of the article suitable for scholarly communications? | The quality of the English in the article is generally good; however, it is recommended that it be reviewed again by a language editor to address some writing deficiencies. |  |
| Optional/General comments | The study does not provide sufficient detail on the statistical validity or reproducibility of the results. While multiple runs were conducted, a clearer discussion of the experimental error or confidence intervals is lacking.  Include error bars or confidence intervals in the graphical representations to account for experimental variability.  Although the literature review is comprehensive, it does not sufficiently address recent advancements in scour countermeasures or alternative methods (e.g., non-rip-rap techniques like geotextile or engineered blocks).  There is limited discussion on how the findings compare to field conditions or real-world scenarios, such as the effects of vegetation or complex flow patterns.  The graphs and figures, while informative, lack comprehensive annotations, making them challenging to interpret without referring to the text.  Enhance the clarity of graphs by adding detailed legends, labels, and contextual annotations for standalone understanding.  Some sections (e.g., introduction and conclusion) are verbose and repetitive, which could hinder reader engagement.  Streamline the introduction and conclusion to eliminate redundancy and enhance focus.  The paper’s focus on USBR weir types and rip-rap. |  |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **Author’s comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |

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| **Reviewer Details:** | |
| Name: | **Kamyab Habibi** |
| Department, University & Country | **Behbahan Khatam Alanbia University of Technology, Iran** |