

CONFLICT OF INTEREST

The authors confirm that this article content has no conflict of interest.

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REFERENCES

- [1] Zhou, J.P.; Yang, Z.Y.; Chen, G.F. Status and challenges of high dam in China. *J. Hydraul. Eng.*, **2006**, 37(12), 1433-1438. (in Chinese)
- [2] Li, Z.Y.; Chen, X.; Chen, M.F. Study on hydraulic problems of spillway tunnels with orifices reformed from diversion tunnel. *J. Hydraul. Eng.*, **1997**, 2, 1-10. (in Chinese)
- [3] Russell, S.O.; Ball, J.W. Sudden-enlargement energy dissipator for Mica dam. *J. Hydraul. Div. ASCE*, **1967**, 93(4), 41-56.
- [4] Wu, J. H.; Ai, W.Z. Flows through energy dissipaters with sudden reduction and sudden enlargement forms. *J. Hydrodyn. Ser. B*, **2010**, 22(3), 234-345.
- [5] Wu, J.H.; Ai, W.Z.; Zhou, Q. Head loss coefficient of orifice plate energy dissipaters. *J. Hydraul. Res.*, **2010**, 48(4), 526-530.
- [6] Ni, H.G. Estimation of incipient cavitation number of spillway tunnel with orifice. *J. Hydrodyn. Ser. A*, **1995**, 10(4), 419-429. (in Chinese)
- [7] Ai, W.Z.; Ding, T.M. Orifice plate cavitation mechanism and its influencing factors. *J. Water Sci. Eng.*, **2010**, 3(3), 321-330.
- [8] Xu, F.S.; Liu, S.J. The characteristics of multi-stage orifice plate. *J. Hydraul. Eng.*, **1988**, 11, 47-57. (in Chinese)
- [9] Liu, S.J.; Yang, Y.Q.; Xu, W.L.; Wang, W. Hydraulic characteristics of throat-type energy dissipater in discharge tunnels. *J. Hydraul. Eng.*, **2002**, 7, 42-50. (in Chinese)
- [10] Tian, Z.; Xu, W.L.; Wang, W.; Liu, S.J. Hydraulic characteristics of plug energy dissipater in flood discharge tunnel. *J. Hydrodyn. Ser. B*, **2009**, 21(6), 799-806.
- [11] Zhang, J.M.; Xu, W.L.; Liu, S.J.; Wang, W. Numerical simulation of turbulent flow in throat type energy dissipaters. *J. Hydraul. Eng.*, **2004**, 12, 27-39. (in Chinese)
- [12] Qu, J.X.; Yang, Y.Q.; Zhang, J.M.; Xu, W.L. Numerical simulation of cavitation on orifice energy-dissipator. *J. Sichuan Univ. (Eng. Sci. Ed.)*, **2001**, 33(3), 30-36. (in Chinese)
- [13] Qu, J.X.; Xu, W.L.; Yang, Y.Q. Numerical simulation of flow through orifice energy dissipaters in XIAOLANGDI flood discharge tunnel. *J. Hydrodyn. Ser. B*, **2000**, 3, 41-46.
- [14] Xia, Q.F.; Ni, H.G. Numerical simulation of plug energy dissipater. *J. Hydraul. Eng.*, **2003**, 8, 37-47. (in Chinese)

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