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Innovative Method for Greatly Reducing Flow Resistance and Obtaining Well-Ordered Continuous Flow WEIYI LIN — In this paper, firstly, the experiment on the flow resistance of the aerated pipe flow is introduced. And some experimental research on comparison between different volumes of air entrained is presented. Secondly, the characteristics of Gravity Pipe Flow under the action of Torricelli's Vacuum, shortly called as GPFUTV are dissertated, including creative and functional design, fundamental principle, etc. Under GPFUTV condition the water flow in the tube is full-pipe and continuous, colorless and non-aerated, high-speed and non-rotational as distinguished from laminar flow. Thirdly, an appeal in relation to the experimental research, the applied studies and basic theory research is given. For instance, the well-known Reynolds' experiment under GPFUTV condition, the potential for GPFUTV to be developed for deep seawater suction technology, seawater intake pipe of OTEC and lifting technology for deep ocean mining in Fe-Mn concretions, flow stability and flow resistance under GPFUTV condition, etc.

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