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Experimental study of periodic flow effects on spanwise vortex¹ CRUZ DANIEL GARCIA MOLINA, ERICK JAVIER LOPEZ SANCHEZ, GER-ARDO RUIZ CHAVARRIA, Facultad de Ciencias Universidad Nacional Autonoma de Mexico, ABRAHAM MEDINA OVANDO, Escuela Superior de Ingenieria Mecanica Electrica, Azcapotzalco, Instituto Politecnico Nacional, Mexico — We present an experimental study about the spanwise vortex produced in a flow going out of a channel in shallow waters. This vortex travels in front of the dipole. The velocity field measurement was done using the PIV technique, and DPIVsoft (https://www.irphe.fr/~meunier/) was used for data processing. In this case the flow has a periodic forcing to simulate ocean tides. The experiment was conducted in a channel with variable width and the measurements were made using three different values of the aspect ratio width-depth. We present results of the position, circulation of this spanwise vortex and the flow inversion effect. The change of flow direction modify the intensity of the vortex, but it does not destroy it. The vertical components of the velocity field contributes particle transport.

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