

# Wasserstein distance on solutions to stochastic differential equations with jumps

Atsushi Takeuchi

(Tokyo Woman's Christian University)

Consider the jump processes  $\{X_t; t \in [0, T]\}$  and  $\{Y_t; t \in [0, T]\}$  valued in  $\mathbb{R}^d$  or a Riemannian manifold  $M$  with  $\dim M = d$ , which are determined by stochastic differential equations with jumps. There are some approaches to construct jump processes on  $M$ , and one of them is the projection of the  $O(M)$ -valued process given as the solution to the Marcus-type equation with jumps. Here,  $O(M)$  is the bundle of orthonormal frames on  $M$ . In this talk, let us focus on the estimates of the Wasserstein distance  $d_W(X_t, Y_t)$ . As an application, we shall give a comment on the probability laws about the subordinated Brownian motion on  $M$  the  $M$ -valued projected process.