

# Worldsheet Instanton Corrections to Five-branes and Waves in Double Field Theory

Tetsuji Kimura, Shin Sasaki and Kenta Shiozawa

## 1 Abstract

We make a comprehensive study on the string winding corrections to supergravity solutions in double field theory (DFT). We find five-brane and wave solutions of diverse codimensions in which the winding coordinates are naturally included. We discuss a physical interpretation of the winding coordinate dependence. The analysis based on the geometric structures behind the solutions leads to an interpretation of the winding dependence as string worldsheet instanton corrections. We also give a brief discussion on the origins of these winding corrections in gauged linear sigma model. Our analysis reveals that for every supergravity solution, one has DFT solutions that include string winding corrections.