

1125-55-1151      **Magnus Bakke Botnan, Justin Curry and Elizabeth Munch\*** (emunch@albany.edu). *The interleaving distance for posets.*

The interleaving distance has been shown to be an incredibly powerful tool in Topological Data Analysis (TDA), as various incarnations provide distances between persistence diagrams, Reeb graphs, and merge trees. In this work, we have extended the notion of interleavings to encompass cosheaves arising from a functor defined on a poset. One result of this machinery is that it provides a definition for the interleaving distance for the mapper graph. In addition, we can approximate the Reeb graph interleaving distance by the interleaving distance for its mapper which opens the door to computational possibilities. (Received September 15, 2016)