Interleavings on categories with a flow

Anastasios Stefanou

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The interleaving distance is a powerful tool in TDA which has been shown to provide a metric for such topological signatures as persistence diagrams and Reeb graphs. In this talk we generalize the idea of interleavings to a broader class of objects, namely categories with a flow. This allows us to show that many commonly used distances, such as the l^{∞}-distance and the Hausdorff metric, are in fact special cases of interleaving distances. In addition, there is a natural way to define morphisms between these categories that generalizes the stability results of TDA to a broad class of objects by showing that the morphisms are 1-Lipschitz.