

1167-55-63

Ryan E. Grady and **Anna Schenfisch*** (annaschenfisch@montana.edu). *Natural Stratifications of Reeb Spaces.*

Stratified spaces are a computationally convenient tool for encoding higher algebraic and categorical structures. In this talk, we consider a class of stratified spaces arising from maps $f : M \rightarrow \mathbb{R}^k$. Such maps have associated Reeb spaces, which describe the cardinality and interactions of connected components of level sets of f (a generalization of the more familiar Reeb graph). The image of the Jacobi set of f leads to a natural stratification of the Reeb space and the codomain of f . In the case that M is a simplicial complex, the Jacobi set also can serve as a tool to stratify M . We will then discuss the potential utility of such stratifications. (Received February 14, 2021)