1157-57-448 **Miriam Kuzbary*** (kuzbary@gatech.edu), 686 Cherry St NW, Atlanta, GA 30332. *An Analogue of Milnor's Invariants for Knots in 3-Manifolds.*

Milnor's invariants are some of the more fundamental oriented link concordance invariants; they behave as higher order linking numbers and can be computed using combinatorial group theory (due to Milnor), Massey products (due to Turaev and Porter), and higher order intersections (due to Cochran). In this paper, we generalize the first non-vanishing Milnor's invariants to oriented knots inside a closed, oriented 3-manifold M. We call this the Dwyer number of a knot and show methods to compute it for null-homologous knots inside connected sums of $S^2 \times S^1$. We further show in this case the Dwyer number provides the weight of the first non-vanishing Massey product in the knot complement in the ambient manifold. Additionally, we prove the Dwyer number detects a family of knots K in $\#^\ell S^2 \times S^1$ bounding smoothly embedded disks in $\natural^\ell S^2 \times D^2$ which are not concordant to the unknot. (Received February 03, 2020)