1077-57-2116 **Stacy L. Hoehn*** (stacy.hoehn@vanderbilt.edu), Department of Mathematics, 1326 Stevenson Center, Vanderbilt University, Nashville, TN 37240, and **C. Bruce Hughes**. *Mapping Cylinder Neighborhoods in Manifold Stratified Pairs.* Preliminary report.

Many interesting spaces are not manifolds themselves but instead are stratified spaces, which are spaces that can be decomposed into manifold pieces called strata. The exact requirements for how these strata fit together vary depending on the type of stratified spaces being discussed. For example, in the stratified spaces studied by Mather, Thom, and Whitney, the relationship between strata is given by certain geometric conditions, while in Quinn's stratified spaces, the strata are related by homotopy conditions.

While strata in geometrically stratified spaces all have neighborhoods which are mapping cylinders of fiber bundles, strata in Quinn's stratified spaces may fail to have mapping cylinder neighborhoods, and even when they do, the maps may fail to be bundle maps. Given a manifold stratified pair $(X, B)$ in the sense of Quinn, we show that, under certain compactness and dimension conditions, the pair $B \times \mathbb{R}$ always has a neighborhood in $X \times \mathbb{R}$ which is the mapping cylinder of a manifold approximate fibration, even if $B$ does not have such a neighborhood in $X$. We also reinterpret the obstruction to $B$ having a mapping cylinder neighborhood in $X$ in terms of splitting certain manifold approximate fibrations over $B \times \mathbb{R}$. (Received September 21, 2011)