

A NON-HAUSDORFF SPACE OF CR EQUIVALENCY CLASSES

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ABSTRACT. An equivalence relation induces a topology on the set of equivalence classes. Often this topology is non-Hausdorff.

Theorem. *Let M be an open three-dimensional orientable manifold. The space of CR equivalence classes is non-Hausdorff.*

It is conjectured that for any three-dimensional manifold, the non-Hausdorff property is due to the presence of Levi-flat points.

Conjecture. *Let M be a three-dimensional manifold. The space of equivalence classes of non-degenerate CR structures is Hausdorff.*

A weak form of the Conjecture is true. Recall that an aspherical CR structure is by definition at no point Levi-flat or spherical.

Theorem. *Let M be a compact three-dimensional manifold. The topology of the aspherical CR structures is Hausdorff.*

This work was motivated in part by the classification of left-invariant CR structures on three-dimensional Lie groups (joint work with Gil Bor).