

BOTT–MORSE FOLIATIONS AND GENERIC LEAF TOPOLOGY IN DIMENSION THREE

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For regular orientable minimal foliations on closed 3-manifolds, the topology of generic leaves is strongly restricted: by results of Ghys and Cantwell–Conlon, only six topological types may occur. In this work we show that this rigidity disappears in the Bott–Morse singular setting. More precisely, we construct transversely orientable codimension one Bott–Morse foliations on closed 3-manifolds admitting a Heegaard decomposition of genus two whose generic leaves have end spaces that cannot occur for regular minimal foliations. The construction is obtained from a dynamical gluing procedure inside a genus-two handlebody involving a Bott–Morse singularity of saddle type and singular circles of center type. The generic leaves are noncompact surfaces whose end spaces consist of a Cantor set together with a discrete family of cylindrical ends accumulating on the Cantor set. We also construct examples in which every end in the Cantor set is accumulated by genus.

Trabajo en conjunto con Martin Andersson (Universidade Federal Fluminense, Brasil) y Guido Gerson Ledesma Espiritu (Universidade do Estado do Rio de Janeiro, Brasil).

Referencias

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