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ON (PATH-)CONNECTEDNESS OF THE SPACE

OF COMMUTING PAIRS OF DIFFEOMORPHISMS OF 1-MANIFOLDS.

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A problem coming independently arising from 1-dimensional dynamics and codimension-1 foliations asks whether the space of commuting circle or interval diffeomorphisms is path connected. This has relieved as a difficult question, with only partial results in very specific regularities. In this talk I will develop on recent work with Hélène Eynard Bontemps (Inst. Fourier, Grenoble), where we prove path-connectedness in class C^{1+ac} and connectedness in class C^2 (C^{1+ac} stands for diffeomorphisms with absolutely continuous derivative).