

Doubles of free groups and hyperbolic surface subgroups

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Let G be the double of a rank-two free group. We prove that G is one-ended if and only if G has a hyperbolic surface subgroup. The proof is done by a partial resolution of a stronger graph theoretical conjecture, and is based on a previous joint work with Henry Wilton (UCL). After surveying results on surface subgroups of various $CAT(0)$ groups, we will focus on approaches to this graph theoretical conjecture. This is a joint work with Sang-il Oum (KAIST).