

**The renormalized volume of hyperbolic 3-manifolds.**  
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Abstract: Quasifuchsian manifolds, and more generally convex co-compact hyperbolic 3-manifolds, have infinite volume. However they have a well-defined "renormalized" volume, first defined and studied by theoretical physicists in a wider setting. After recalling some key properties of quasifuchsian and convex co-compact hyperbolic 3-manifolds, we will give a definition of the renormalized volume and prove some of its key properties. We will then outline one or two recent applications to Teichmüller theory and to the geometry of hyperbolic 3-manifolds.