



# Classification of irreducible quasifinite modules over map Virasoro algebras

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We give a complete classification of the irreducible quasifinite modules for algebras of the form  $\text{Vir} \otimes A$ , where  $\text{Vir}$  is the Virasoro algebra and  $A$  is a Noetherian commutative associative unital algebra over the complex numbers. It is shown that all such modules are tensor products of generalized evaluation modules. We also give an explicit sufficient condition for a Verma module of  $\text{Vir} \otimes A$  to be reducible. In the case that  $A$  is an infinite-dimensional integral domain, this condition is also necessary.

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