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Farzad Fathizadeh* (ffathiz@uwo.ca), Department of Mathematics, Middlesex College, Western University, London, Ontario N6A 5B7, Canada, and **Masoud Khalkhali** (masoud@uwo.ca), Department of Mathematics, Middlesex College, Western University, London, Ontario N6A 5B7, Canada. *Scalar Curvature for Noncommutative Four Tori.*

I will report on a recent joint work with M. Khalkhali in which we study the curved geometry of noncommutative four tori \mathbb{T}_θ^4 . We prove the analogue of Weyl's law, Connes' trace theorem, and compute the scalar curvature of \mathbb{T}_θ^4 whose flat geometry is perturbed conformally by means of a Weyl factor. We also consider the analogue of the Einstein-Hilbert action for \mathbb{T}_θ^4 and show that metrics with constant curvature are critical points of this action. (Received February 02, 2013)