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Markus J Pflaum* (markus.pflaum@colorado.edu), Department of Mathematics UCB 395, University of Colorado, Boulder, CO 80309, and **Hessel Posthuma** and **Xiang Tang**. *Higher Index Theorems For Orbifolds*.

Given a symplectic orbifold and a deformation quantization on it, we prove an algebraic higher index theorem on orbifolds by computing the pairing between cyclic cocycles and the K -theory of the formal deformation quantization. As an application, we obtain the analytic higher index theorem of Connes–Moscovici and its extension to orbifolds. (Received February 17, 2009)