Shengyuan Huang*, 4817 Sheboygan Avenue, Apt 603, Madison, WI 53705. The cup product in global quotient orbifold Hochschild cohomology.

There is a natural cup product on the Hochschild cohomology of a ring, algebraic variety, or orbifold. However, in the orbifold case it is very complicated and an explicit description is not known. In this talk, I will first identify orbifold Hochschild cohomology $HH^\ast(X/G)$ with orbifold poly-vector fields $HT^\ast(X/G)$ as vector spaces. Then I will discuss an explicit construction of a cup product on orbifold poly-vector fields when the group $G$ is abelian. It is expected to match the cup product of orbifold Hochschild cohomology. (Received July 15, 2019)