ORBIFOLD COHOMOLOGY OF WREATH PRODUCT ORBIFOLDS

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Abstract. Let X/G be an orbifold of a global quotient by a finite group G, where X is compact. The Wreath product $G^n \rtimes \mathfrak{S}_n$ naturally acts on n-fold direct product X^n and so we get an orbifold $[X^n/G^n \rtimes \mathfrak{S}_n]$. We call this orbifold "Wreath product Orbifolds". In [1], the orbifold cohomology of symmetric products is computed by showing the ring isomorphism to the algebra $H^*(X)\{\mathfrak{S}_n\}$ constructed in [2]. In this talk, I will propose the generalization of this isomorphism in the case of the above wreath product orbifold and show some examples.

References

[1] B. Fantechi and L. Göttsche, *Orbifold Cohomology for Global Quotients*, AG/0104207
[2] M. Lehn and C. Sorger, *THe Cup Product of The Cohomology of The Hilbert Scheme for K3 Surfaces*, AG/0012166

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