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Quantum cohomology of C^N/μ_r

We give an explicit construction of the moduli space $\overline{M}_{0,n}(B\mu_r)$ of genus-zero twisted stable maps to $B\mu_r$ (the classifying stack of a cyclic group) by a sequence of r-th root constructions on $\overline{M}_{0,n}$. By using a notion of weighted stable maps, we prove a formula for the total Chern class of the μ_r-eigenspaces of the Hodge bundle. This gives a formula for the Chern class of the obstruction bundle computing the Gromov–Witten invariants of $[C^N/\mu_r]$ for any linear group action of μ_r on C^N.

We deduce linear recursions for all genus-zero Gromov–Witten invariants of $[C^N/\mu_r]$.

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