



# The small quantum cohomology of a weighted projective space, a mirror D-module and their classical limits

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Mots-clés	Brieskorn lattice [3], Frobenius manifolds [4], Mirror symmetry [5], quantum cohomologys [6], Weighted projective spaces [7]  We first describe a mirror partner (B-model) of the small quantum orbifold cohomology of weighted projective spaces (A-model) in the framework of differential equations: we attach to the A-model (resp. B-model) a quantum differential system (that is a trivial bundle equipped with a suitable flat meromorphic connection and a flat bilinear form) and we give an explicit isomorphism between these two quantum differential systems. On the A-side (resp. on the B-side), the quantum differential system alluded to is naturally produced by the small quantum cohomology (resp. a solution of the Birkhoff problem for the Brieskorn lattice of a Landau-Ginzburg model). Then we study the degenerations of these quantum differential systems and we apply our results to the construction of (classical, limit, logarithmic) Frobenius manifolds.
Résumé en anglais	<p>We first describe a mirror partner (B-model) of the small quantum orbifold cohomology of weighted projective spaces (A-model) in the framework of differential equations: we attach to the A-model (resp. B-model) a quantum differential system (that is a trivial bundle equipped with a suitable flat meromorphic connection and a flat bilinear form) and we give an explicit isomorphism between these two quantum differential systems. On the A-side (resp. on the B-side), the quantum differential system alluded to is naturally produced by the small quantum cohomology (resp. a solution of the Birkhoff problem for the Brieskorn lattice of a Landau-Ginzburg model). Then we study the degenerations of these quantum differential systems and we apply our results to the construction of (classical, limit, logarithmic) Frobenius manifolds.</p>
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## Liens

- [1] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26885>
- [2] <http://okina.univ-angers.fr/etienne.mann/publications>

- [3] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23094>
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