The fundamental group of the Stringy Kähler Moduli Space acts on $D^b(X)$ via spherical twists

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The Context

We start with algebraic torus $T \cong (\mathbb{C}^*)^r$ acting on a vector space $\mathbb{C}^n$. These actions the actions are simple to write out:

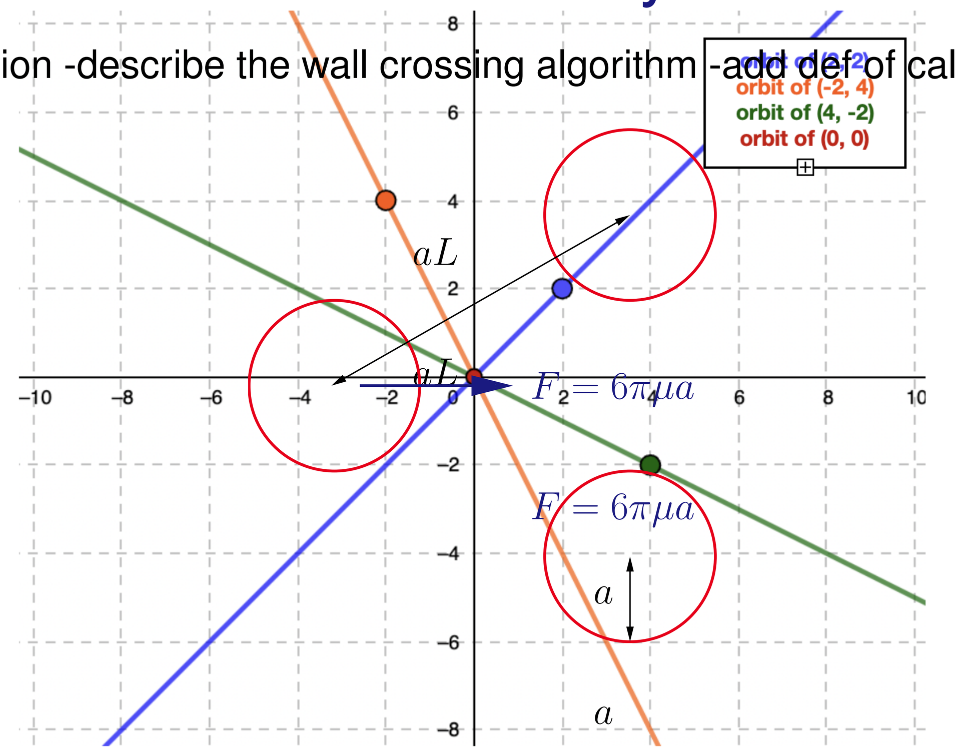
$$(\lambda_1, \dots, \lambda_r) \cdot (z_1, \dots, z_n) = (\lambda_1{}^{q_{11}}\lambda_2{}^{q_{12}} \dots \lambda_r{}^{q_{1r}} z_1, \dots, \lambda_1{}^{q_{n1}}\lambda_2{}^{q_{n2}} \dots \lambda_r{}^{q_{nr}} z_1)$$

We get an $n \times r$ integer matrix $Q = (q_{ij})$, called the weight matrix.
We would like to construct an algebraic variety that parametrises the actions quotients. **Geometric Invariant Theory** (GIT) is the theory that tells us what to throw away before we quotient so that we get a good/geometric quotient. [1]

Example 1 *Consider $\mathbb{C}^*$ acting on $\mathbb{C}^2$ linearly, i.e. $\lambda \cdot (z_1, z_2) = (\lambda z_1, \lambda z_2)$.*

Geometric Invariant Theory and Wall Crossing

-first explain action -describe the wall crossing algorithm -add def of calabi yau



Figures (and labels using the LaTeX picture environment) work as you would expect.

In general GIT quotients are not unique, and depending on a choice of *stability*

GKZ discriminant locus

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Use of Colour

With the `color` package you can use as much colour as you like: but the Red and DarkBlue colours defined here are more useful than the obvious red and blue versions, which tend to seem too bright when printed.

Use spacing as well as colour to highlight a key question or issue:

Who will rid me of this turbulent priest?

Praesent elementum malesuada mauris. Duis aliquet dolor ut nunc. Pellentesque euismod augue a odio.

Mirror Symmetry Conjecture

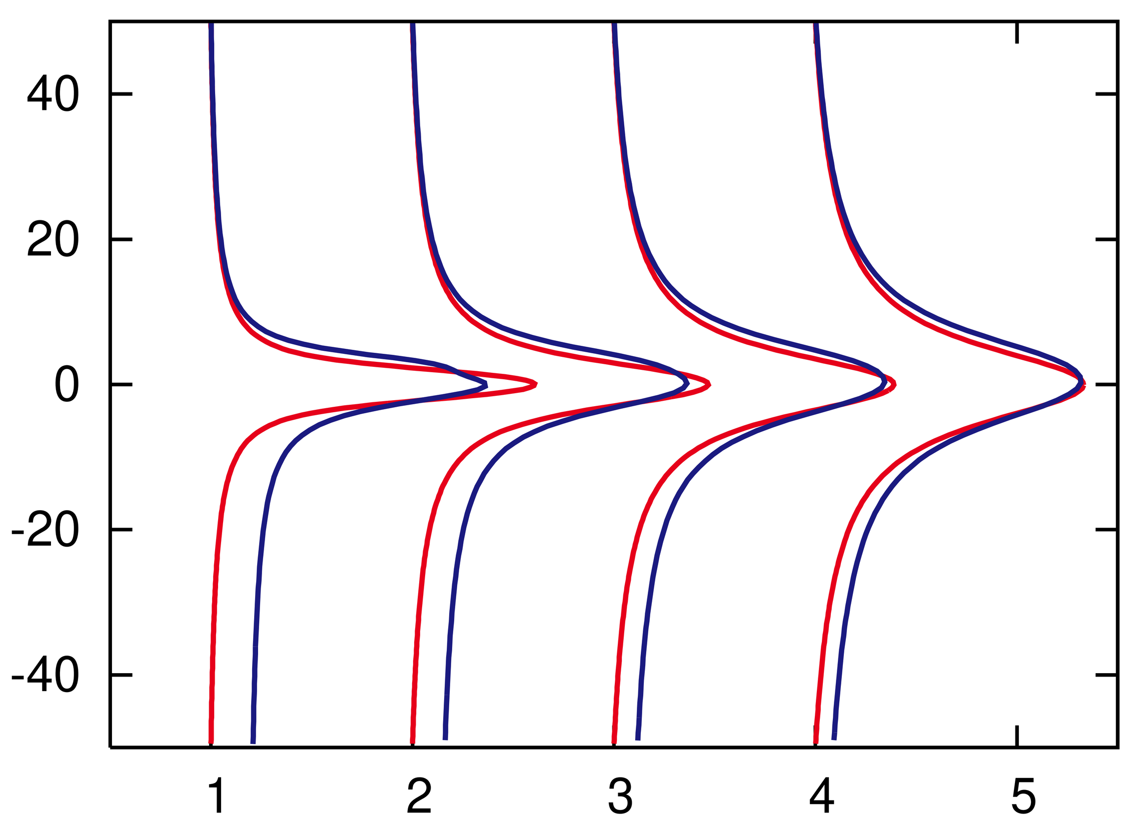
Of course, the principal reason for choosing LaTeX is its ability with equations:

$$U_{\text{doublet}} = \frac{mg}{2\pi\mu a}\left(\int_0^\infty \left\{1 - \frac{2\sinh^2 s - 2s^2}{\sinh 2s + 2s}\right\} \mathrm{d}s\right)^{-1} \approx \frac{1.55mg}{6\pi\mu a},$$

but it's equally easy to include tables:

	U_1		U_2		U_3		U_3
L	MR	SD	MR	SD	MR	SD	error
2.01	0.65528	0.64739	0.63461	0.62691	0.00498	0.00451	9%
2.10	0.73857	0.73126	0.59718	0.58784	0.03517	0.02570	27%
2.50	0.87765	0.87482	0.49545	0.48829	0.07393	0.05853	21%
3.00	0.93905	0.93806	0.41694	0.41356	0.07824	0.06970	11%
4.00	0.97964	0.97945	0.31859	0.31774	0.06925	0.06639	4%
6.00	0.99581	0.99579	0.21586	0.21575	0.05078	0.05019	1%

and, of course, images:



Sectioning

First Subsection

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Second Subsection

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References

[1] D. Mumford, J. Fogarty, and F. Kirwan. *Geometric invariant theory*, volume 34. Springer Science & Business Media, 1994.