Info

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$$\mathbb{R} \ltimes_\theta \mathbb{C}^2$$

#Wiki/group/Lie

$$\begin{aligned}(\mathbb{R},+) &\curvearrowright (\mathbb{C}^2,+)\\ \begin{bmatrix}z_1\\z_2\end{bmatrix} &\overset{t}{\mapsto} \begin{bmatrix}\exp(2\pi i t) & \\ & \exp(2\pi i \theta t)\end{bmatrix}\begin{bmatrix}z_1\\z_2\end{bmatrix}\end{aligned}$$

Definition. $\mathbb{R} \ltimes_\theta \mathbb{C}^2$

We have the Lie group

$$\mathbb{R} \ltimes_\theta \mathbb{C}^2$$

with the product

$$(t, z_1, z_2)(s, w_1, w_2) = (t + s, z_1 + \exp(2\pi i t) w_1, z_2 + \exp(2\pi i \theta t) w_2)$$

[1]

Current note has 0 direct children and 0 total descendants.

- squishy
  - $\mathbb{R} \ltimes_\theta \mathbb{C}^2$

And it has 30 siblings.

- squishy
  - $SL(2)(\mathbb{R}) \curvearrowright \mathbb{R}^2$
  - $SL(2)(\mathbb{R}) \curvearrowright H^2_{\mathbb{U}}$
  - $\mathsf{Mat}_{\mathbb{C}}(2)$
  - $A_{r,}\_\langle z \mapsto \lambda z\rangle \backslash \mathbb{R}\boldsymbol{H}^2_{\mathbb{U}}$
  - $\mathbb{C}\setminus\{0\},\_\langle z \mapsto z+1\rangle \backslash \mathbb{R}\boldsymbol{H}^2_{\mathbb{U}}$
  - $\mathbb{C}\setminus\{0,1\},\_PSL(2)(\mathbb{Z})[2] \backslash \mathbb{R}\boldsymbol{H}^2_{\mathbb{U}}$
  - $\mathbb{R} \ltimes_\theta \mathbb{C}^2$
  - $\boldsymbol{Cl}(\mathbb{R}^n, \langle\ ,\ \rangle_{0,n})$
  - $\mathbb{C}^n$
  - $U(\mathbb{C}\setminus\{0\})$
  - $PSL(2)(\mathbb{C}) \curvearrowright \mathbb{C}P^1 \cong_{\mathsf{Man}} S^2$
  - $\mathbb{C}P^n$
  - Farey graph, complex and tree
  - GL
  - Heisenberg group
  - Incomplete hyperbolic polygon mod side-pairing
  - $\mathbb{R}\boldsymbol{H}^2,\_\mathbb{R}H^2_{\mathbb{U}},\_D^2$
  - $\mathbb{R}\boldsymbol{H}^n$
  - D_n lattice
  - Matrices
  - $\mathsf{Mat}_{\mathbb{R}}(2)$
  - Mobius endomorphisms
  - Elementary group with finite and infinite sided Dirichlet polyhedra
  - Polynomials
  - $T^*S^1 \ncong_{\mathsf{Sym}} (\mathbb{R}^2\setminus\{0\}, \mathrm{d}x \wedge \mathrm{d}y)$
  - $Z\left(\sum_{1\le j\le n} z_j^2 - 1\right)(\mathbb{C}) \cong_{\mathsf{Sym}} T^*S^{n-1}$
  - SL
  - SO
  - Seifert–Weber dodecahedral 3-manifold
  - $U(n,\mathbb{C})$

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1. gr.group theory - Embedding of the adjoint group into $\mathrm{GL}(\mathfrak{g})$ - MathOverflow ↩