gilmore-lie-groups: residuals

equations measured 2026-09-11T10:43:57Z against the model of 2026-09-03

Unresolved

Identifier	Page	Conf.	LaTeX source	Rendered	Image
gilmore-lie-groups_EQ00584 (11.4) **[conf 0.001]**	188	■ 0.001 ● C|+67	\left.\left.\left[\begin{array}{ccccccccc} 1 & & & & & & & & \\ & 1 & & & & & & & \\ & & 1 & & & & & & \\ & & & \ddots & & & & & \\ & & & & 1 & & & & \\ & & & & & 1 & & & \\ & & & & & & -1 & & \\ & & & & & & & 1 & \\ & & & & & & & & -1 \\ & & & & & & & & & \ddots \end{array}\right] \begin{array}{c} H_{1} \\ H_{2} \\ H_{3} \\ \vdots \\ H_{n} \\ \end{array} \text { } ㅡ 口 ㅡ 亻 丶 工 二 十 丨 ∴L E_{\alpha}\right) E_{\alpha}\right)	*(not rendered)*	$\left[\begin{array}{ccccccccc} 1 & & & & & & & & \\ & 1 & & & & & & & \\ & & 1 & & & & & & \\ & & & \ddots & & & & & \\ & & & & 1 & & & & \\ & & & & & 1 & & & \\ & & & & & & -1 & & \\ & & & & & & & 1 & \\ & & & & & & & & -1 \\ & & & & & & & & & \ddots \end{array}\right] \begin{array}{c} H_{1} \\ H_{2} \\ H_{3} \\ \vdots \\ H_{n} \\ \frac{1}{\sqrt{2}}(E_{\alpha}+E_{-\alpha}) \\ \frac{1}{\sqrt{2}}(E_{\alpha}-E_{-\alpha}) \\ \frac{1}{\sqrt{2}}(E_{\beta}+E_{-\beta}) \\ \frac{1}{\sqrt{2}}(E_{\beta}-E_{-\beta}) \\ \vdots \end{array}$

Conf. MathPix confidence: ■ ≥0.9 ■ 0.5–0.9 ■ <0.5 — no value

LaTeX source MathPix's reading, unchanged; **Rendered** the same reading, with a display environment (align/alignat/flalign/eqnarray/gather/multline/split) mapped to its in-math form so it can typeset in this cell — the two may legitimately differ

Residual render vs scan (inkdrill): ● C component ● W weak ● S stable ● N noise ● K clean ● not measured

[refined: *basis*] beside an identifier: the LaTeX-source and Rendered cells both show a VERIFIED refinement, not MathPix's own reading — *basis* names what verified it (e.g. ink, source). The original reading is unchanged in the model but is not the one drawn here.

Flagged, not acted on

Identifier	Page	Conf.	LaTeX source	Rendered	Image
gilmore-lie-groups_ EQ0024 (1.20)	24	■ 0.222 ● C|+21	`\left.\left(r_{1}-r_{2}\right)\right\} \xrightarrow{I}+ \left(r_{1}-r_{2}\right),`	$(r_1 - r_2)\} \xrightarrow{I} + (r_1 - r_2)\,,$	$(r_1 - r_2) \left.\begin{array}{l} \xrightarrow{I} +(r_1 - r_2) \\ \xrightarrow{(12)} (r_2 - r_1) = -(r_1 - r_2) \end{array}\right.$
gilmore-lie-groups_ EQ0474 (8.6)	145	■ 0.233 ● C|+114	`\begin{gathered} \eta\left(\hat{n}+\frac{1}{2}\right)+R a^{\dagger 2}+L a^{2}+r a^{\dagger}+l a+\delta I \\ \mathfrak{d e f}=\left[\begin{array}{cccc} 0 & l & r & -2 \delta \\ 0 & \eta & 2 R & -r \\ 0 & -2 L & -\eta & l \\ 0 & 0 & 0 & 0 \end{array}\right] \\ \Re e \mathfrak{g}= \\ \left.\hline \begin{array}{ccc|ccc} 0 & -2 R & 2 L & -r & l & 0 \\ 4 L & 2 \eta & 0 & 2 l & 0 & 0 \\ -4 R & 0 & -2 \eta & 0 & -2 r & 0 \\ \hline & & & \eta & 2 L & l \\ & & & -2 R & -\eta & -r \\ & & & 0 & 0 & 0 \end{array}\right] \begin{array}{c} \hat{n}+\frac{1}{2} \\ a^{\dagger 2} \\ a^{2} \\ a^{\dagger} \\ a \\ I \end{array} \end{gathered}`	*(not rendered)*	$\eta\left(\hat{n} + \frac{1}{2}\right) + R a^{\dagger\,2} + L a^2 + r a^\dagger + l a + \delta I$ $\mathfrak{def} = \begin{bmatrix} 0 & l & r & -2\delta \\ 0 & \eta & 2R & -r \\ 0 & -2L & -\eta & l \\ 0 & 0 & 0 & 0 \end{bmatrix}$ $\mathfrak{Reg} = \left[\begin{array}{ccc\|ccc} 0 & -2R & 2L & -r & l & 0 \\ 4L & 2\eta & 0 & 2l & 0 & 0 \\ -4R & 0 & -2\eta & 0 & -2r & 0 \\ \hline & & & \eta & 2L & l \\ & & & -2R & -\eta & -r \\ & & & 0 & 0 & 0 \end{array}\right] \begin{array}{c} \hat{n}+\frac{1}{2} \\ a^{\dagger 2} \\ a^2 \\ a^\dagger \\ a \\ I \end{array}$
gilmore-lie-groups_ EQ0556 (10.1)	174	■ 0.447 ● C|+25	`\begin{aligned} {\left[H_{i}, H_{j}\right] } & =0 \\ {\left[\mathbf{H}, E_{\alpha}\right] } & =\alpha E_{ \alpha} \\ {\left[E_{\alpha}, E_{\beta}\right] } & = \alpha \cdot \mathbf{H} \quad \alpha+\beta=0 \\ & =N_{ \alpha, \beta} E_{\alpha+\beta} \end{aligned}`	$[H_i, H_j] = 0$ $[\mathbf{H}, E_\alpha] = \alpha E_\alpha$ $[E_\alpha, E_\beta] = \alpha \cdot \mathbf{H} \quad \alpha + \beta = 0$ $= N_{\alpha,\beta} E_{\alpha+\beta}$	$[H_i, H_j] = 0$ $[\mathbf{H}, E_\alpha] = \alpha E_\alpha$ $[E_\alpha, E_\beta] = \alpha \cdot \mathbf{H} \qquad \alpha + \beta = 0$ $= N_{\alpha,\beta} E_{\alpha+\beta}\ \alpha + \beta \neq 0$ a root $= 0 \qquad \alpha + \beta$ not a root

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Identifier	Page	Conf.	LaTeX source	Rendered	Image
gilmore-lie-groups_ EQ0983 (16.26)	306	■ 0.902 ● C|-23	`\begin{gathered} \text { monomial } \\ y^{2} / x \\ y / x \\ 1 \\ x \\ y \\ x y \\ x^{2} y \\ x y^{2} \\ x y^{3} \\ x y^{4} \end{gathered} \quad\left[\begin{array}{rrrrrr} \xi_{00} & \xi_{10} & \xi_{01} & \eta_{00} & \eta_{10} & \eta_{01} \\ 0 & 0 & -2 & 0 & 0 & 0 \\ -1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & +1 & 0 & 0 \\ 0 & 0 & 0 & 0 & +2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & -1 & 0 & 0 & 0 & -1 \\ 0 & 0 & -2 & 0 & 0 & 0 \\ 0 & 0 & +1 & 0 & 0 & 0 \end{array}\right]\left[\begin{array}{l} \xi_{00} \\ \xi_{10} \\ \xi_{01} \\ \eta_{00} \\ \eta_{10} \\ \eta_{01} \end{array}\right]=\left[\begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{array}\right]` monomial y^2/x y/x 1 x y xy x^2y xy^2 xy^3 xy^4 $\begin{bmatrix} \xi_{00} & \xi_{10} & \xi_{01} & \eta_{00} & \eta_{10} & \eta_{01} \\ 0 & 0 & -2 & 0 & 0 & 0 \\ -1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & +1 & 0 & 0 \\ 0 & 0 & 0 & 0 & +2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & -1 & 0 & 0 & 0 & -1 \\ 0 & 0 & -2 & 0 & 0 & 0 \\ 0 & 0 & +1 & 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} \xi_{00} \\ \xi_{10} \\ \xi_{01} \\ \eta_{00} \\ \eta_{10} \\ \eta_{01} \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{bmatrix}$	monomial y^2/x y/x 1 x y xy x^2y xy^2 xy^3 xy^4 $\begin{bmatrix} \xi_{00} & \xi_{10} & \xi_{01} & \eta_{00} & \eta_{10} & \eta_{01} \\ 0 & 0 & -2 & 0 & 0 & 0 \\ -1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & +1 & 0 & 0 \\ 0 & 0 & 0 & 0 & +2 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & -2 & 0 & 0 \\ 0 & 0 & 0 & 0 & -2 & 0 \\ 0 & -1 & 0 & 0 & 0 & -1 \\ 0 & 0 & -2 & 0 & 0 & 0 \\ 0 & 0 & +1 & 0 & 0 & 0 \end{bmatrix} \begin{bmatrix} \xi_{00} \\ \xi_{10} \\ \xi_{01} \\ \eta_{00} \\ \eta_{10} \\ \eta_{01} \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{bmatrix}$
gilmore-lie-groups_ EQ0490 (8.24)	150	■ 0.946 ● C|+20	`\mathfrak{g}=\underbrace{\left(\hat{n}+\frac{1}{2}, a^{ \dagger 2}, a^{2}\right)}_{\operatorname{su}(1,1)}+ \underbrace{\left(a^{\dagger}, a, I\right)}_{\text {nilpotent }}`	$\mathfrak{g}=\underbrace{\left(\hat{n}+\frac{1}{2}, a^{\dagger 2}, a^{2}\right)}_{\mathrm{su}(1,1)}+\underbrace{\left(a^{\dagger}, a, I\right)}_{\text{nilpotent}}$	$\mathfrak{g}=\underbrace{(\hat{n}+\frac{1}{2}, a^{\dagger 2}, a^{2})}_{\mathrm{su}(1,1)} + \underbrace{(a^{\dagger}, a, I)}_{\text{nilpotent invariant subalgebra}}$

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272 more flagged rows below the band, stated as a count: 47 component, 225 weak; confidence high 173, mid 48, low 51, none 0

Low confidence

Identifier	Page	Conf.	LaTeX source	Rendered	Image
gilmore-lie-groups_EQ00249 **[conf 0.031]**	84	■ 0.031 ●	`\begin{aligned} f_{0}(\theta) &=\cos \theta & \text { or } & f_{0}(\theta) \end{aligned}=\cos \theta \text { }{ }^{\left(f_{1}(\theta)\right.}=\sin (\theta) / \theta \quad \begin{aligned} & \theta f_{1}(\theta)= \sin (\theta) \\ f_{2}(\theta) & =(1-\cos (\theta)) / \theta^{2} \end{aligned} \quad \theta^{2} f_{2}(\theta)=1-\cos (\theta),`	$f_0(\theta) = \cos\theta$ or $f_0(\theta) = \cos\theta$ $^{(f_1(\theta)} = \sin(\theta)/\theta$ $\begin{aligned} \theta f_1(\theta) &= \sin(\theta) \\ f_2(\theta) &= (1-\cos(\theta))/\theta^2 \end{aligned}$ $\theta^2 f_2(\theta) = 1-\cos(\theta),$	$f_0(\theta) = \cos\theta$ $f_1(\theta) = \sin(\theta)/\theta$ $f_2(\theta) = (1-\cos(\theta))/\theta^2$ or $f_0(\theta) = \cos\theta$ $\theta f_1(\theta) = \sin(\theta)$ $\theta^2 f_2(\theta) = 1-\cos(\theta)$

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