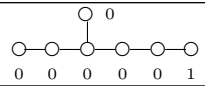
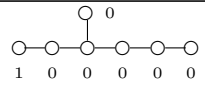
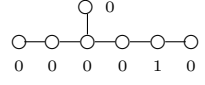
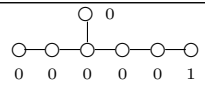
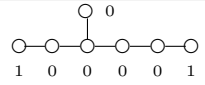
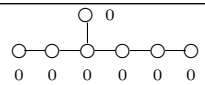
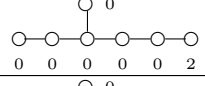
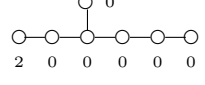
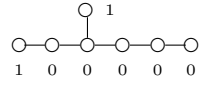


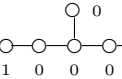
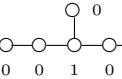
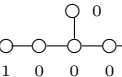
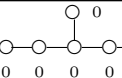
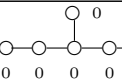
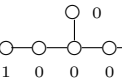
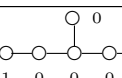
PREHOMOGENEOUS SPACES ASSOCIATED WITH NILPOTENT ORBITS IN TYPE EIX

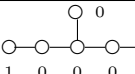
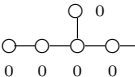
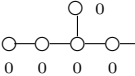
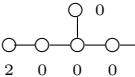
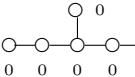
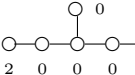
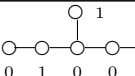
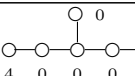
STEVEN GLENN JACKSON AND ALFRED G. NOËL

Nilpotent orbits in type EIX				
Orbit	$K_{\mathbb{C}}$ diagram	i	$\dim \mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$	Highest weights of $\mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$
1.		1	28	$(1, 0, 0, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
2.		1	32	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		2	2	$(1, 0, 0, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
3.		1	32	$(0, 1, 0, 0, 0, 0, -1, 1, 0)$
		2	10	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
4.		1	27	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
		3	1	$(0, 0, 0, 0, 0, 0, 0, 0, 2)$
5.		1	27	$(-1, 0, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, 0, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 0, 2)$
		2	16	$(-1, 0, 1, 0, 0, 0, 0, 0, 0)$
		3	1	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
6.		4	1	$(0, 0, 0, 0, 0, 0, 0, 0, 2)$
7.		2	28	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 0, 2)$
8.		2	32	$(-1, 0, 1, 0, 0, 0, 0, 0, 0)$
		4	1	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
9.		1	22	$(1, -1, 0, 0, 0, 0, 0, 1, 0)$ $(-1, 0, 0, 0, 0, 0, 1, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 0, 2)$
		2	20	$(0, -1, 0, 0, 1, 0, 0, 0, 0)$
		3	6	$(-1, 0, 1, 0, 0, 0, 0, 0, 0)$
		4	1	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
(continued on next page)				

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Key words and phrases. Lie group, nilpotent orbit, prehomogeneous space.

Nilpotent orbits in type EIX (continued)				
Orbit	$K_{\mathbb{C}}$ diagram	i	$\dim \mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$	Highest weights of $\mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$
10.		1	24	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, -1, 1, 0)$
		2	18	$(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		3	8	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		4	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
11.		1	24	$(1, 1, 0, -1, 0, 0, 1, 0)$
		2	18	$(0, 0, 1, -1, 0, 1, 0, 0)$
		3	8	$(0, 1, 0, -1, 1, 0, 0, 0)$
		4	3	$(1, 0, 0, 0, 0, 0, 0, 0)$
12.		1	16	$(0, 1, 0, 0, 0, 0, -1, 0)$
		2	10	$(-1, 0, 0, 0, 0, 1, 0, 0)$
		3	16	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		4	2	$(1, 0, 0, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
13.		1	16	$(0, 1, 0, 0, 0, 0, -1, 0)$
		2	2	$(0, 0, 0, 0, 0, -1, 2, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		3	16	$(0, 1, 0, 0, 0, -1, 1, 0)$
		4	10	$(1, 0, 0, 0, 0, 0, 0, 0)$
14.		2	32	$(0, 1, 0, 0, 0, -1, 1, 0)$
		4	10	$(1, 0, 0, 0, 0, 0, 0, 0)$
15.		1	18	$(0, 0, 0, 0, 0, -1, 2, 0)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		2	16	$(-1, 0, 0, 0, 1, -1, 1, 0)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		3	9	$(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$
		4	8	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		5	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
16.		1	17	$(0, 0, 0, 0, 0, -1, 2, 0)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		2	16	$(-1, 0, 0, 0, 1, -1, 1, 0)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		3	10	$(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
(continued on next page)				

Nilpotent orbits in type EIX (continued)				
Orbit	$K_{\mathbb{C}}$ diagram	i	$\dim \mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$	Highest weights of $\mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$
		4	8	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		5	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
17.		1	17	$(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		3	10	$(-1, 0, 0, 0, 0, 0, 1, 0, 0)$
		4	16	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		5	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
18.		2	32	$(0, 1, 0, 0, 0, 0, -1, 1, 0)$
		4	11	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 0, 2)$
19.		4	27	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
20.		2	27	$(-1, 0, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, 0, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 0, 2)$
		4	16	$(-1, 0, 1, 0, 0, 0, 0, 0, 0)$
		6	1	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
21.		4	27	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
		8	1	$(0, 0, 0, 0, 0, 0, 0, 0, 2)$
22.		2	16	$(0, 1, 0, 0, 0, 0, 0, -1, 0)$
		4	11	$(-1, 0, 0, 0, 0, 0, 1, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 0, 2)$
		6	16	$(-1, 0, 1, 0, 0, 0, 0, 0, 0)$
		8	1	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
23.		1	16	$(0, 1, -1, 0, 0, 1, -1, 0)$ $(0, -1, -1, 1, 0, 0, 1, 0)$ $(1, -1, 0, 0, 0, 1, -1, 0)$
		2	16	$(0, 1, -1, 0, 0, 0, 1, 0)$ $(1, -1, 0, 0, 0, 0, 1, 0)$ $(1, 0, -1, 0, 1, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		3	12	$(0, -1, 0, 1, 0, 0, 0, -1, 0)$ $(1, 0, -1, 0, 0, 1, 0, 0)$
		4	7	$(0, 1, 0, 0, 0, 0, 0, -1, 0)$ $(0, -1, 0, 0, 1, 0, 0, 0, 0)$
		5	4	$(0, 0, -1, 1, 0, 0, 0, 0, 0)$
		6	2	$(1, 0, 0, 0, 0, 0, 0, 0, 0)$
24.		4	33	$(-1, 0, 1, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		8	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
(continued on next page)				

Nilpotent orbits in type EIX (continued)				
Orbit	K_C diagram	i	$\dim \mathfrak{g}_C^i \cap \mathfrak{k}_C$	Highest weights of $\mathfrak{g}_C^i \cap \mathfrak{k}_C$
25.		2	24	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, -1, 1, 0)$
		4	17	$(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$
		6	8	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		8	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
26.		1	13	$(2, 0, -1, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, -1, 2, 0)$ $(0, 1, -1, 0, 0, 1, -1, 0)$ $(-1, 0, 0, 1, 0, -1, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		2	14	$(0, 1, -1, 0, 0, 0, 1, 0)$ $(1, 0, -1, 1, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		3	9	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 0, -1, 0, 1, 0, -1, 0)$ $(-1, 0, 0, 0, 1, -1, 1, 0)$
		4	9	$(1, 0, -1, 0, 1, -1, 1, 0)$ $(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		5	5	$(1, 0, -1, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$
		6	6	$(0, 0, -1, 1, 0, 0, 0, 0)$
		7	1	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		8	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
27.		1	12	$(0, 1, -1, 0, 0, 1, -1, 0)$ $(1, -1, 0, 0, 0, 1, -1, 0)$
		2	12	$(1, 0, -1, 0, 1, 0, -1, 0)$
		3	8	$(0, -1, -1, 1, 0, 0, 1, 0)$ $(0, -1, 0, 1, 0, 0, -1, 0)$
		4	5	$(0, 1, -1, 0, 0, 0, 1, 0)$ $(1, -1, 0, 0, 0, 0, 1, 0)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		5	8	$(1, 0, -1, 0, 0, 1, 0, 0)$
		6	6	$(0, -1, 0, 0, 1, 0, 0, 0)$
		7	4	$(0, 0, -1, 1, 0, 0, 0, 0)$
		8	2	$(1, 0, 0, 0, 0, 0, 0, 0)$
28.		2	24	$(1, 1, 0, -1, 0, 0, 1, 0)$
		4	18	$(0, 0, 1, -1, 0, 1, 0, 0)$
		6	8	$(0, 1, 0, -1, 1, 0, 0, 0)$
		8	3	$(1, 0, 0, 0, 0, 0, 0, 0)$
29.		1	9	$(0, 0, 0, 0, 0, -1, 2, 0)$ $(0, 0, 1, 0, 0, -1, 0, 0)$
(continued on next page)				

Nilpotent orbits in type EIX (continued)				
Orbit	$K_{\mathbb{C}}$ diagram	i	$\dim \mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$	Highest weights of $\mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$
		3	9	$(-1, 0, 0, 0, 1, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		4	16	$(-1, 0, 0, 0, 1, -1, 1, 0)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		5	8	$(0, 1, 0, 0, 0, -1, 1, 0)$
		7	1	$(-1, 0, 0, 0, 0, 1, 0, 0)$
		8	8	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		9	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
30.		2	18	$(0, 0, 0, 0, 0, -1, 2, 0)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		4	16	$(-1, 0, 0, 0, 1, -1, 1, 0)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		6	9	$(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$
		8	8	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		10	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
31.		4	33	$(0, 1, 0, 0, 0, -1, 1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		8	10	$(1, 0, 0, 0, 0, 0, 0, 0)$
32.		2	16	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		4	10	$(0, 0, 0, 0, 0, -1, 2, 0)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		6	8	$(-1, 0, 0, 0, 1, -1, 1, 0)$
		8	9	$(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$
		10	8	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		12	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
33.		4	26	$(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, 0, -1, 0)$
		8	17	$(-1, 0, 1, 0, 0, 0, 0, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		12	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
34.		2	16	$(0, 0, 0, -1, 1, 0, 1, 0)$ $(1, 1, 0, -1, 1, -1, 0, 0)$
		4	15	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(1, 1, 0, -1, 0, 0, 1, 0)$
		6	12	$(0, 0, 1, -1, 1, -1, 1, 0)$
		8	7	$(0, 0, 1, -1, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$
		10	4	$(0, 1, 0, -1, 1, 0, 0, 0)$
		12	3	$(1, 0, 0, 0, 0, 0, 0, 0)$
(continued on next page)				

Nilpotent orbits in type EIX (continued)				
Orbit	$K_{\mathbb{C}}$ diagram	i	$\dim \mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$	Highest weights of $\mathfrak{g}_{\mathbb{C}}^i \cap \mathfrak{k}_{\mathbb{C}}$
35.		4	25	$(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, -1, 1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		8	17	$(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$
		12	8	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		16	1	$(1, 0, 0, 0, 0, 0, 0, 0)$
36.		4	17	$(0, 0, 0, 0, 0, -1, 2, 0)$ $(0, 0, 1, 0, 0, -1, 0, 0)$ $(-1, 0, 0, 0, 1, 0, -1, 0)$
		8	17	$(-1, 0, 0, 0, 1, -1, 1, 0)$ $(0, 1, 0, 0, 0, 0, -1, 0)$ $(0, 0, 0, 0, 0, 0, 0, 2)$
		12	9	$(-1, 0, 0, 0, 0, 1, 0, 0)$ $(0, 1, 0, 0, 0, -1, 1, 0)$
		16	8	$(-1, 0, 1, 0, 0, 0, 0, 0)$
		20	1	$(1, 0, 0, 0, 0, 0, 0, 0)$

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