Udvidedlse af S-reglerne, Appendix

Maja Hanne Tønnesen, Rune Christoffer Kildetoft Andresen
& Niels Peter Meyn Milthers

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[S **lemma** Prop 3.7j: $\Pi\mathcal{A}$: $0 < \mathcal{A}'$]

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[S **lemma** Prop 3.7m: $\Pi\mathcal{A}$: $\mathcal{A} < \mathcal{A}'$]

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[S **lemma** Prop 3.7q: $\Pi\mathcal{A},\mathcal{B}\colon \mathcal{A} \leq \mathcal{B} \vee \mathcal{B} \leq \mathcal{A}$]

[S **lemma** Prop 3.7r: $\Pi\mathcal{A},\mathcal{B}\colon \mathcal{A} + \mathcal{B} \geq \mathcal{A}$]

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[S **lemma** Prop 3.7t: $\Pi\mathcal{A},\mathcal{B}\colon \mathcal{B} \neq 0 \Rightarrow \mathcal{A} \cdot \mathcal{B} \geq \mathcal{A}$]

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[S **lemma** Prop 3.7w: $\Pi\mathcal{A},\mathcal{B}\colon \mathcal{A} \neq 0 \Rightarrow \mathcal{B} > \overline{1} \Rightarrow \mathcal{B} \cdot \mathcal{A} > \mathcal{A}$]

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[S **lemma** Prop 3.7x$'$: $\Pi\mathcal{A},\mathcal{B},\mathcal{C}\colon \mathcal{A} \neq 0 \Rightarrow \mathcal{B} \cdot \mathcal{A} < \mathcal{C} \cdot \mathcal{A} \Rightarrow \mathcal{B} < \mathcal{C}$]

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[S **lemma** Prop 3.7y$'$: $\Pi\mathcal{A},\mathcal{B},\mathcal{C}\colon \mathcal{A} \neq 0 \Rightarrow \mathcal{B} \cdot \mathcal{A} \leq \mathcal{C} \cdot \mathcal{A} \Rightarrow \mathcal{B} \leq \mathcal{C}$]

[S **lemma** Prop 3.7z: $\Pi\mathcal{A}\colon \mathcal{A} \not< 0$]

[S **lemma** Prop 3.7z$'$: $\Pi\mathcal{A},\mathcal{B}\colon \mathcal{A} \leq \mathcal{B} \wedge \mathcal{B} \leq \mathcal{A} \Rightarrow \mathcal{A} = \mathcal{B}$]

0.1 **proof of** Prop 3.7

1 **Lemma** Prop 3.10

[S **lemma** Prop 3.10a: $\Pi\mathcal{A}\colon \mathcal{A} \mid \mathcal{A}$]

[S **lemma** Prop 3.10b: $\Pi\mathcal{A}\colon \overline{1} \mid \mathcal{A}$]

[S **lemma** Prop 3.10c: $\Pi\mathcal{A}\colon \mathcal{A} \mid 0$]

[S **lemma** Prop 3.10d: $\Pi\mathcal{A},\mathcal{B},\mathcal{C}\colon \mathcal{A} \mid \mathcal{B} \wedge \mathcal{B} \mid \mathcal{C} \Rightarrow \mathcal{A} \mid \mathcal{C}$]

[S **lemma** Prop 3.10e: $\Pi\mathcal{A},\mathcal{B}\colon \mathcal{A} \neq 0 \wedge \mathcal{B} \mid \mathcal{B} \Rightarrow \mathcal{A} \leq \mathcal{A}$]

[S **lemma** Prop 3.10f: $\Pi\mathcal{A},\mathcal{B}\colon \mathcal{A} \mid \mathcal{B} \wedge \mathcal{B} \mid \mathcal{A} \Rightarrow \mathcal{A} = \mathcal{B}$]

[S **lemma** Prop 3.10g: $\Pi\mathcal{A},\mathcal{B},\mathcal{C}\colon \mathcal{A} \mid \mathcal{B} \Rightarrow \mathcal{A} \mid (\mathcal{B} \cdot \mathcal{C})$]

[S **lemma** Prop 3.10h: $\Pi\mathcal{A},\mathcal{B},\mathcal{C}\colon \mathcal{A} \mid \mathcal{B} \wedge \mathcal{A} \mid \mathcal{C} \Rightarrow \mathcal{A} \mid (\mathcal{B} + \mathcal{C})$]

2 **Lemma** Prop 3.11

[S **lemma** Prop 3.11: $\Pi\mathcal{A},\mathcal{B}\colon \mathcal{A} \neq 0 \Rightarrow \exists\mathcal{C},\mathcal{D}\colon (\mathcal{B} = \mathcal{A}\cdot\mathcal{C} + \mathcal{D} \wedge \mathcal{D} < \mathcal{A} \wedge \forall\mathcal{E}$, $\mathcal{F}\colon ((\mathcal{B} = \mathcal{A}\cdot\mathcal{E} + \mathcal{F} \wedge \mathcal{F} < \mathcal{A}) \Rightarrow \mathcal{C} = \mathcal{E} \wedge \mathcal{D} = \mathcal{F}))$]

References