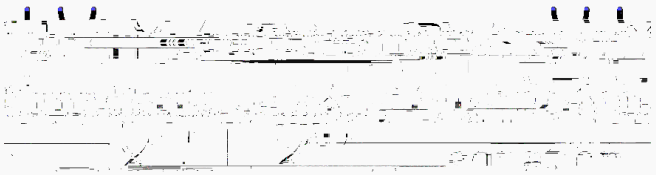

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The ng- te e tion

If X is a s t, a s t-th or tical l ti n of th ang- axt r quation $r : X \quad X \; ! \; X \quad X$ is a map such that th ll-kno n id e ti n

$$r_1 r_2 r_1 = r_2 r_1 r_2$$

is satis d, h r $r_1 = r \quad \mathrm{id}_X$ and $r_2 = \mathrm{id}_X \quad r$.

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If B 's a s t 'th t o op ations

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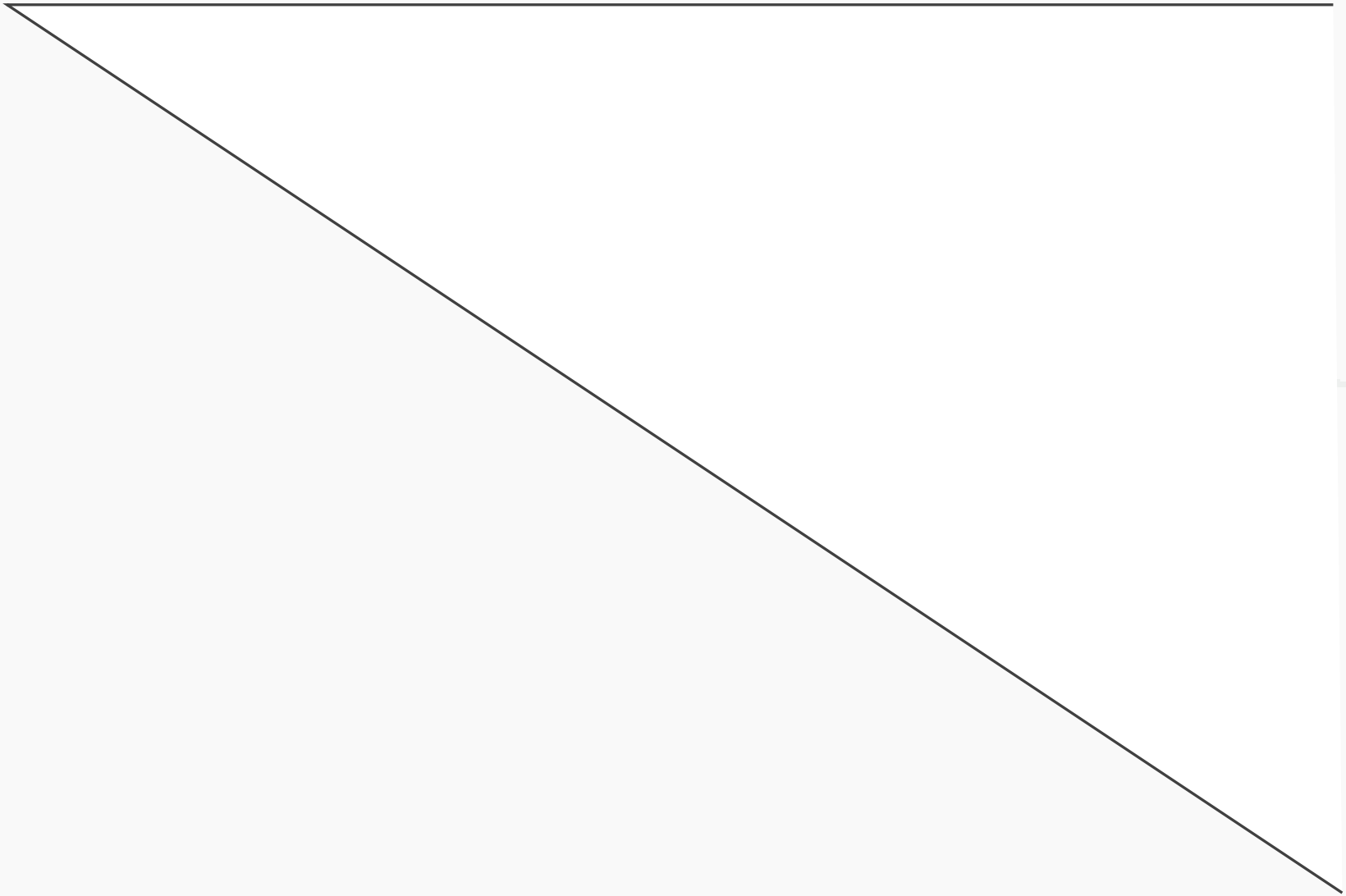

How to obtain solution through sesqui-brace

Theorem (Fontini, L., Lo Stefanello, Lentner, 2017)

Let B be a semi-brace.

Solution of the Lang-Baxter equation

Solution associated to a mi- rac

Properties of S_a

If B is a semi-brace and $a \in B$, then $\lambda_a : B \to B; b \mapsto$

o e ties of s b

Properties of S_b

If B is a semi-brace, E the set of idempotents of $(B;+)$ and 0 is the identity of $(B;\cdot)$

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If B 's a s mi-brad , E th s t of 'd mpot nts of $(B; +)$

Sketch of the proof.

1

The solution associated to a sewable

Comparison between the two solutions

If B is a skew brace then B is a semi-brace with a group as additive structure.

What is the relation between the solution associated to B as skew brace and the one associated to B as semi-brace?

Let $a, b \in B$. Then

$$a + a \quad b = \quad a + a \quad +$$

Comparison between the two solutions

If B is a skew brace then B is a semi-brace with a group as additive structure.

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If B is a sk bia

The theorem

Theorem (Fontaine, Leroux, Sakarovitch, Stefanelli, Improvement)

Let G be a task bigraph and E a trivial semi-bigraph,

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Solution of the Lang-Baxter equation

Solution associated to a mi- mac

matched product

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Mathematical Background

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The Method

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$$L_t G_b 0\ 0$$

Solution of the Lang-Baxter equation

Solution associated to a mi- mac

matched product

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