

CO3

a **CO**nverter for proving **CO**nfluence of **CO**nditional TRSs

Ver. 1.4

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Overview

Convert a normal-1CTRS/3-DCTRS to a TRS by using

- the simultaneous unraveling \mathbb{U}

[Marchiori, 96][Ohlebusch, 02][Gmeiner et al, 13]

- the SR transformation \mathbb{SR} [Şerbănuță & Roşu, 06][Nakayama et al, 16]

Theorem (confluence criteria)

\mathcal{R} is confluent if

- $\mathbb{U}(\mathcal{R})$ is weakly-left-linear and confluent, [Gmeiner et al, 13]
or

- \mathbb{SR} is sound for \mathcal{R} and $\mathbb{SR}(\mathcal{R})$ is confluent

[Nishida et al, 14][Nishida, 16]

- Very simple criteria for confluence and termination
- Do not use \mathbb{SR} to prove confluence
 - ▶ no successful example for the current criterion
 - ▶ efficiency was improved

(ver. 1.4)
[Nishida, 16]