

# CO3 (Ver. 2.1)

a COnverter for proving COnfluence of COnditional TRSs

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## Overview

CO3 proves confluence of 3-DCTRSs or infeasibility of conditions by using

- very simple termination/confluence criteria for TRSs,
- the improved sequential unraveling  $\mathbb{U}_{conf}$  [Gmeiner et al, 13], and
- narrowing trees [Nishida & Maeda, 18]

## Infeasibility Criterion for Condition $c$ w.r.t. DCTRSs

$\mathbb{U}_{conf}(\mathcal{R})$  is right-linear and a narrowing tree for  $c$  defines  $\emptyset$  [Maeda et al, 19]

## Confluence Criteria for syntactically deterministic 3-CTRSs $\mathcal{R}$

- $\mathcal{R}$  is weakly-left-linear and  $\mathbb{U}_{conf}(\mathcal{R})$  is confluent [Gmeiner et al, 13], or
- $\mathbb{U}_{conf}(\mathcal{R})$  is terminating and right-linear  
and  $\forall \langle s, t \rangle \Leftarrow c \in CP(\mathcal{R}), (c = \epsilon \wedge s = t) \vee$  “ $c$  is infeasible” [Maeda et al, 19]