Vortragsankündigung

Recognition of Process Equivalence in Environments with Communicating Objects

Vortragende
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Joachim-Jungius-Str. 9 (RIGZ), E-Learning-Werkstatt

Kurzfassung
In the presentation, I will define a concept of the object-oriented environment model and processes over it, as well as, I will state the problem of process equivalence in these environments with special extension of the latter: for the case, when there can be not only objects in this environments for which the turn of operation execution is essential, but also for the case, when there can be objects that have such operations the turn of execution of which is not essential (commutative objects).

During the presentation, it will be shown, that the problem of equivalence of regular expressions over partially commutative semigroups (Theta Equivalence) and the problem of equivalence of processes in the environments of the kind mentioned above can be reduced to each other. I will present the technique, introduced back in 1980, of coding words in a partially commutative semigroup, basing on which, a special application of that technique has been developed and the last open case of the problem of Theta Equivalence has been proved to be solvable.

Besides, the application of the same technique for acquiring a new combinatorial proof of decidability of the problem of equivalence of deterministic multi-tape automata will be demonstrated.