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rCOS: a refinement calculus of object systems. (English) Zbl 1118.68049
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Summary: A mathematical characterization of object-oriented concepts by defining an observation-oriented semantics for a relational object-based language with a rich variety of features including subtypes, visibility, inheritance, type casting, dynamic binding and polymorphism. The language can be used to specify object-oriented designs as well as programs. We present a calculus that supports both structural and behavioural refinement of object-oriented designs. The design calculus is based on the predicate logic in Hoare and He's Unifying Theories of Programming (UTP).

MSC:

- 68N30** Mathematical aspects of software engineering (specification, verification, metrics, requirements, etc.)
- 68N19** Other programming paradigms (object-oriented, sequential, concurrent, automatic, etc.)
- 68Q55** Semantics in the theory of computing

Cited in **1** Review
Cited in **17** Documents

Keywords:

[object orientation](#); [refinement](#); [semantics](#); [UTP](#)

Software:

[Circus](#)

Full Text: [DOI](#)

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