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A proof technique for parallel programs. (English) [Zbl 0543.68010](#)
Theor. Comput. Sci. 31, 13-29 (1984).

Summary: In this paper we present a set of axioms and rules of inference for a parallel programming language with shared variables and synchronization statements. The important difference between our approach and that of *S. Owicki* and *D. Gries* [*Commun. ACM* 19, 279-285 (1976; [Zbl 0322.68010](#))] is that our semantics does not contain anything similar to their 'inference freedom' check, resulting in a much greater isolation of the proofs of the individual processes than is possible in their system. We illustrate our proof technique with some simple examples.

MSC:

[68Q60](#) Specification and verification (program logics, model checking, etc.)
[68N25](#) Theory of operating systems

Cited in **1** Review
Cited in **9** Documents

Keywords:

correctness of programs; axioms and rules of inference; shared variables; synchronization

Full Text: [DOI](#)

References:

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- [2] Owicki, S.S.; Gries, D., An axiomatic proof technique for parallel programs, *Acta. inform.*, 6, 319-340, (1976) · [Zbl 0312.68011](#)
- [3] Owicki, S.S.; Gries, D., Verifying properties of parallel programs: an axiomatic approach, *Comm. ACM*, 19, 279-285, (1976) · [Zbl 0322.68010](#)
- [4] Rosen, B.K., Correctness of parallel programs: the church-rosser approach, IBM res. rept. RC5107, (1974)

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