Errata for Article "Efficient Solving of Quantified Inequality Constraints over the Real Numbers"

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February 14, 2008

The original version of the article [1] contains several mistakes (with the exception of the last item, this is corrected on the Postscript version of the paper on my web-page):

- In Algorithm 1, typesetting introduced a problem with indentation: Starting from the if-statement one level of indentation is missing.
- Both in Algorithm 1 and Algorithm 2 the first call to the pruning function should be done on the negated constraint instead of the original constraint.
- In Algorithm 2 pruning should be done on the constraint ϕ_U instead of ϕ.
- In Algorithm 1 and Algorithm 2, if the first pruning does not succeed, the algorithm does not try any further pruning. The error can be corrected by introducing two Boolean variables `consistent` and `consistent_neg` that are initially false. As long as one of these variables is false, the algorithm continues pruning the constraint or its negation, respectively. After pruning, the corresponding flag is set to true, and—if pruning succeeded—the dual flag is set to false.

I thank Natalia Kalinnik and Alexandre Goldsztejn for detecting these errors.

References

[1] S. Ratschan. Efficient solving of quantified inequality constraints over the real numbers. *ACM Transactions on Computational Logic*, 7(4):723–748, 2006.