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**ANDREAS FISCHER**, University of Saskatchewan, Dept. of Mathematics & Statistics, 106 Wiggins Road, Saskatoon, Canada S7N 5E6

*Definability of algebraic models*

By a theorem of Akbulut and King, every smooth compactifiable manifold  $N$  (that is,  $N$  is diffeomorphic to the interior of a smooth compact manifold with boundary) is diffeomorphic to a non-singular real algebraic set. We say that  $N$  admits an algebraic model. We discuss the definability of the diffeomorphism under the assumption that the underlying set of  $N$  is definable in an expansion of the real field. In general, every definably compactifiable differentiable ( $C^k$  for finite  $k$ ) manifold admits definably an algebraic model. For structures expanding the real exponential field we obtain stronger results. There, definably compactifiable smooth manifolds admit definably and smooth algebraic models.