

1111-14-311 **Annette Huber*** (annette.huber@math.uni-freiburg.de). *Differential forms in algebraic geometry – a new perspective in the singular case.*

Differential forms originally show up when integrating or differentiating on manifolds. However, the concept also makes perfect sense on algebraic varieties because the derivative of a polynomial is a polynomial.

The object has very many important uses, e.g., as a source of invariants needed in order to classify varieties. This approach was very successful for smooth varieties, but the singular case is less well-understood.

We explain how the use of the h-topology (introduced by Suslin and Voevodsky in order to study motives) gives a very good object also in the singular case, at least in characteristic zero. The approach unifies other ad-hoc notions and simplifies many proofs. We also explain the necessary modifications in positive characteristic and the new problems that show up. (Received February 05, 2015)