

**Sums of squares of vector fields, generalised Weitzenböck formulae,
and higher order derivative formula**

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Abstract. There is a routine for obtaining path integral formulae for derivatives of smooth heat semigroups, and for certain heat semigroups acting on differential forms etc, established some time ago by myself, LeJan, & XueMei Li. Following a description of this in its general form, I will discuss its applicability to higher order derivatives by looking at some special examples.