TIME DEPENDENT MALIIAVIN CALCULUS ON MANIFOLDS AND
APPLICATION TO NONLINEAR FILTERING

Jang Schiltz

Abstract: In this paper, we prove, using Malliavin calculus, that under a global
Hörmander condition the law of a Riemannian manifold valued stochastic process, a
solution of a stochastic differential equation with time dependent coefficients, admits a
$C^\infty$-density with respect to the Riemannian volume element. This result is applied to a
nonlinear filtering problem with time dependent coefficients on manifolds.

2000 AMS Mathematics Subject Classification: Primary: -; Secondary: -;
Key words and phrases: -

THE FULL TEXT IS AVAILABLE HERE