

## **Integration-by-Parts Characterizations of Gaussian Processes**

Tommi Sottinen

*University of Vaasa*

`tommi.sottinen@iki.fi`

The Stein's lemma characterizes the one-dimensional Gaussian distribution via an integration-by-parts formula. We show that a similar integration-by-parts formula characterizes a wide class of Gaussian processes, the so-called Gaussian Fredholm processes. Examples include the Brownian motion and fractional Brownian motions.

This talk is based on article Azmoodeh, E., Sottinen, T., Tudor, C.A. et al. Integration-by-parts characterizations of Gaussian processes. *Collect. Math.* (2020).

<https://doi.org/10.1007/s13348-019-00278-x>