

**Sauleau, Erik-A.; Musio, Monica; Etienne, Arnaud; Buemi, Antoine**

**Comparison of three convolution prior spatial models for cancer incidence.** (English)

[Zbl 1392.62327](#)

Auget, Jean-Louis (ed.) et al., Advances in statistical methods for the health sciences. Applications to cancer and AIDS studies, genome sequence analysis, and survival analysis. Selected papers based on the presentations at the international conference on statistics in health sciences, Nantes, France, June 23–25, 2004. Boston, MA: Birkhäuser (ISBN 0-8176-4368-0/hbk). Statistics for Industry and Technology, 451-466 (2007).

Summary: Generalized linear models with a Poisson distribution are often used to model cancer registry data stratified by sex, age, year, and little geographical units. We compare three different approaches which take into account possible spatial correlation among neighbouring units, using lung cancer incidence data. Inference is fully Bayesian and uses Markov chain Monte Carlo techniques. Comparison between models is based on the Deviance Information Criterion (DIC).

For the entire collection see [[Zbl 1106.62348](#)].

**MSC:**

[62P10](#) Applications of statistics to biology and medical sciences; meta analysis

**Software:**

[DCluster](#); [SemiPar](#)