# Coefficient reconstruction from partial measurements in a heterogeneous equation of FKPP type

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We consider the problem of forecasting the regions at higher risk for newly introduced invasive species. Favourable and unfavourable regions may indeed not be known a priori, especially for exotic species, whose hosts in native range and newly-colonized regions can be different. Assuming that the species dynamics are governed by a logistic-like reaction-diffusion equation, we show that, theoretically, these regions can be determined using only partial measurements of the population density: 1) a local "spatio-temporal" measurement, during a short time period and, 2) a "spatial" measurement in the whole region susceptible to be colonized. We then present a stochastic algorithm which is proved analytically, and then on several numerical examples, to be efficient in deriving these regions.