

SENTINELS FOR AN EPIDEMIOLOGICAL *SIR* MODEL
WITH SPATIAL DIFFUSION

YASSAMINA HAMADI, DJILLALI BOUAGADA, and ABDENNEBI OMRANE

Abstract. The controllability of the classical epidemiological *SIR* model of Kermack and McKendrick [8] with spatial diffusion is studied as an application to the sentinel method of Lions [10], where we consider that the observation and the control have their supports in two different sets. The perturbation affects the ill population I , while the initial condition of the susceptible individuals S is incomplete. We show that we have null-controllability, which proves the existence of a sentinel for the *SIR* model.

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Key words. Null-controllability, sentinel, *SIR* model, spatial diffusion.

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University Abdelhamid Ibn Badis of Mostaganem
ACSY Team-Laboratory of Pure
and Applied Mathematics
Department of Mathematics and Computer Science
Faculty SEI
BP 227-Mostaganem 27000, Algeria
E-mail: hamadi.yasmine@yahoo.fr
E-mail: djillali.bouagada@univ-mosta.dz

University of French Guiana
UMR 228 ESPACE-DEV (UG/IRD/UM/UR)
Montabo Street BP 165, 97323 Cayenne, France
E-mail: abdennebi.omrane@univ-guyane.fr